

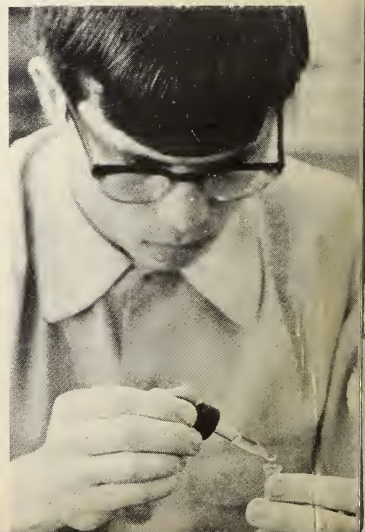
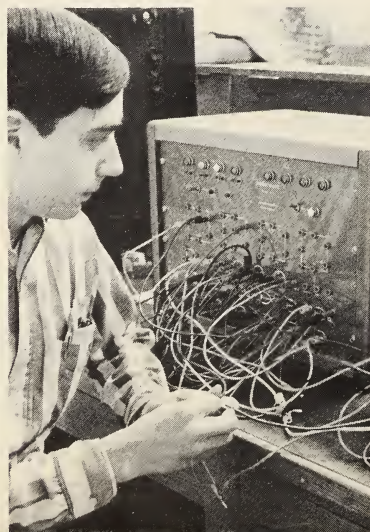
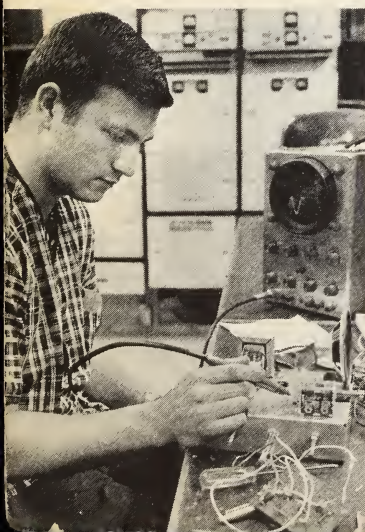
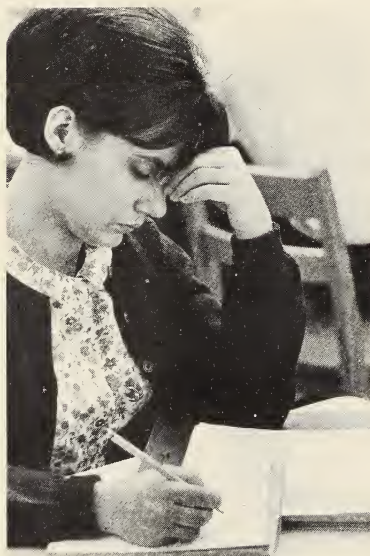
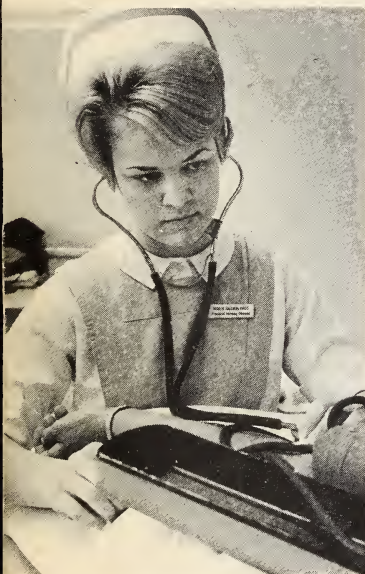
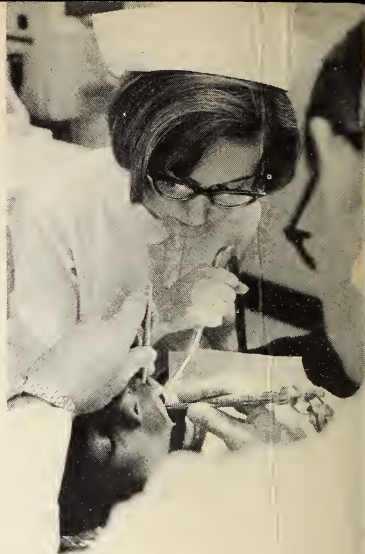
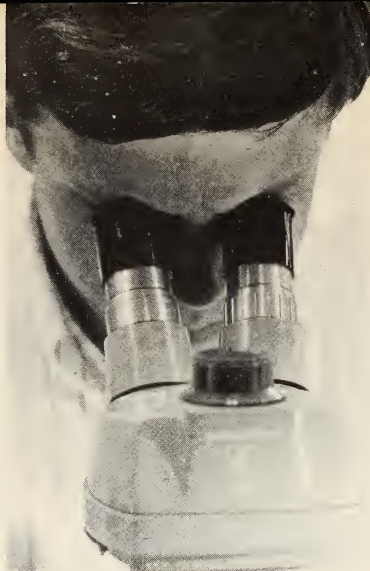
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CENTRAL PIEDMONT COMMUNITY COLLEGE

GENERAL CATALOG

1967-1968



CENTRAL PIEDMONT COMMUNITY COLLEGE

HARRY W. LEWIS
SYSTEMS PROGRAMMER
CENTRAL PIEDMONT COMM. COLL.
P. O. BOX 35009
CHARLOTTE, NC 28235

Member of
The American Association of Junior Colleges
The North Carolina Association of Junior Colleges

GENERAL CATALOG

Volume III

July 1967

Announcements For
1967-68

Charlotte, North Carolina

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Part One

COLLEGE ORGANIZATION

I. BOARD OF TRUSTEES

Edgar A. Terrell, Jr., Chairman

Emil J. Kratt, Vice Chairman

Dr. Richard H. Hagemeyer, Secretary

Appointed By The Governor

	Expiration of Term
Mrs. Henry E. Fisher	June 30, 1973
Mrs. James B. Garland	June 30, 1971
John R. Milliken	June 30, 1975
G. A. Rudisill	June 30, 1969

Appointed by The Mecklenburg County Board of Commissioners

	Expiration of Term
Dr. Spencer E. Durante	June 30, 1975
J. Emmett Sebrell	June 30, 1971
J. D. Sloan	June 30, 1973
Robert L. Taylor	June 30, 1969

Appointed By The Charlotte-Mecklenburg Board of Education

	Expiration of Term
Rev. Moses S. Belton	June 30, 1967
Emil J. Kratt	June 30, 1969
Dr. William C. Self	June 30, 1973
E. A. Terrell, Jr.	June 30, 1971

II. ADMINISTRATIVE STAFF

Richard H. Hagemeyer, President

B.S., 1939 (Bowling Green University); M.A., 1951 (University of Michigan); Ed.D., 1961 (Wayne State University).

Noah Gayle Simmons, Vice President

B.S., 1948 (Southeast Missouri State College); M.A., 1951, Ed.D., 1960 (Washington University); post-doctoral study at Michigan State University.

Dean Brady Davis, Dean, Technical and Vocational Division

B.Ed., 1941 (Eastern Illinois Teachers College); M.S., 1950 (North Carolina State University at Raleigh).

*James Alexander Kiser, Jr., Dean, Student Services

A.B., 1952 (Lenoir Rhyne College); M.Ed., 1953 (University of North Carolina at Chapel Hill); additional graduate work at North Carolina State University at Raleigh.

Otto A. Lockee, Dean, Extension Division

B.S., 1951 (Texas Christian University); M.Ed., 1951 (Texas Christian University); Registered Professional Engineer.

John Levi Sauder, Dean, General Adult Division

B.S., 1936 (Pennsylvania State College at Millersville); M.A., 1947 (University of Virginia); completed doctoral course requirements at University of Virginia; additional graduate work at North Carolina State University at Raleigh.

Vaud A. Travis, Jr., Dean, Liberal Arts and Business

B.S., 1947 (Northeastern State College); M.S., 1948, Ed.D., 1966 (Oklahoma State University).

James Harold Williams, Acting Dean, Student Services.

A.B., 1934 (University of North Carolina at Chapel Hill); M.A., 1953 (Appalachian State Teachers College); additional graduate work at University of North Carolina at Chapel Hill.

Robert Gilman Hoelzel, Comptroller

A.B., 1950 (Harvard); graduate work at University of Michigan.

E. Worth Campbell, Jr., Administrative Assistant

B.S., 1953 (Appalachian State Teachers College); M.Ed., 1958 (University of North Carolina at Chapel Hill); additional graduate work at North Carolina State University at Raleigh and Converse College.

III FACULTY

James Franklin Alexander, Counselor

B.S., 1951 (Johnson C. Smith University); M.S., 1963 (Agricultural and Technical College of North Carolina).

Myra Adelaide Barron, History

A.B., 1930 (Winthrop College); M.A., 1951 (Peabody College); additional graduate work at Clemson University and Appalachian State Teachers College.

*Official leave of absence.

- Anne S. Bivens, Associate Degree Nursing
Diploma 1955 (Presbyterian Hospital School of Nursing) ; B.S., 1957 (Queens College).
- Hoyle Lee Blalock, Jr., Data Processing Technology
B.S., 1961 (North Carolina State University at Raleigh) ; M.Ed., 1966 (North Carolina State University at Raleigh) ; Professional Certificate in Data Processing.
- Hazel H. Blevins, Associate Degree Nursing
Diploma, 1931 (St. Leo's Hospital School of Nursing) ; Certificate in Public Health Nursing, 1947 (University of Minnesota) ; B.S., P.H.N., 1952 (University of North Carolina at Chapel Hill) ; additional undergraduate and graduate work in psychiatric nursing at Duke University, Columbia University and Rutgers University.
- John Graham Bradley, Machine Tools Laboratory
B.S., 1967 (University of North Carolina at Charlotte).
- Thomas G. Brady, Jr., Programmed Learning Laboratory
A.B., 1963 (Elon College) ; graduate work at North Carolina State University at Raleigh.
- Elizabeth Brice, English
B.A., 1932 (Winthrop College) ; M.A., 1960 (Western Carolina College) ; additional graduate work at Columbia University and University of London.
- Rolla Gene Bryant, Music
B.M., 1950 (Central Methodist College) ; M.Ed., 1957 (University of Missouri) ; additional graduate work at University of Illinois.
- Herbert Burns, Accounting
B.S., 1964, M.A., 1967 (Appalachian State Teachers College).
- Ray Von Caldwell, Biology
A.B., 1953 (Lenoir Rhyne College) ; M.Ed., 1959 (University of North Carolina at Chapel Hill) ; additional graduate work at Converse College.
- Lemuel Hooker Cannon, Jr., Drafting and Design Technology
B.M.E., 1947 (North Carolina State University at Raleigh) ; Registered Professional Engineer.
- Jane Lindsay Carriker, Practical Nursing
Diploma 1942 (Montreat Junior College) ; Diploma 1945 (Presbyterian Hospital School of Nursing) ; additional work at North Carolina State University at Raleigh and University of North Carolina at Chapel Hill.
- William Edward Cheek, Chemistry
B.S., 1953, M.A., 1957 (Appalachian State Teachers College) ; M.A., 1962 (George Peabody College) ; additional graduate work at University of North Carolina at Chapel Hill, Michigan State, Duke University, Vanderbilt University and Kansas State.

- Nancy Carolyn Chesire, Associate Degree Nursing
B.S.N., 1959 (Duke University); M.S., 1963 (University of Maryland).
- Patricia Christenbury, Biology
B.A., 1962 (Meredith College); M.A., 1966 (Wake Forest College).
- Patsy Dennis Craddock, Associate Degree Nursing
Diploma, 1956 (Presbyterian Hospital School of Nursing); B.S., 1958 (Queens College).
- Catherine Crates, Data Processing Technology
B.A., 1964 (University of North Carolina at Charlotte).
- Ruby Foster Crosier, Secretarial Curricula
Secretarial Science Certificate, 1937 (Elon College); B.S., Business Administration, 1940 (Catawba College); graduate work at University of North Carolina at Chapel Hill.
- Lewis Fisher Drum, Chemistry
B.S., 1938 (Lenoir Rhyne College); B.Ch.E., 1939, M.S., 1941 (North Carolina State University at Raleigh); additional graduate work at Appalachian State Teachers College, and North Carolina State University at Raleigh.
- Marion F. Durham, Counselor
A.B., 1935 (University of North Carolina at Greensboro); M.Ed., 1953 (University of North Carolina at Chapel Hill).
- Alois George Farkas, Construction Engineering Technology
B.S.C.E., 1948, M.S.C.E., 1959 (Washington University); additional graduate work at Duke University and North Carolina State University at Raleigh; Registered Professional Engineer.
- Bernice Poole Fulson, Practical Nursing
Diploma, 1952 (Kale Bitting Reynolds Memorial); B.S., 1964 (Queens College).
- Robert Curtis Fussell, Jr., Electrical and Electronics Technology
Associate in Engineering Electronics, 1957 (Valparaiso Technical Institute); additional undergraduate work at University of North Carolina at Charlotte and North Carolina State University at Raleigh.
- Eleanor Willoughby Garrett, Secretarial Curricula
A.B., 1937 (Bowling Green College of Commerce); graduate work at University of Kentucky and University of North Carolina at Chapel Hill.
- Dorothy Gove Glover, Practical Nursing
Diploma, 1941 (Mercy College of Nursing); additional undergraduate work at University of Michigan, University of Georgia, and North Carolina State University at Raleigh.
- Robert Lyle Gossett, Anatomy and Physiology
B.S., 1950 (University of Dayton); graduate Certificate in Physical Therapy, (Cleveland Clinic).
- Thomas Edward Griffin, Coordinator of
Programmed Learning Laboratory.
B.S., 1952 (Western Carolina College); M.A., 1964 (Appalachian State Teachers College).
- Ronald Corbin Gyles, Electrical and Electronics Technology
B.E.E., 1943, B.S., 1950, M.I.A., 1956 (North Carolina State University at Raleigh); Registered Professional Engineer.

- Julian W. Habercam, Dental Hygiene
D.D.S., 1938 (University of Maryland).
- G. Mitchell Hagler, Jr., English
B.S., 1960 (Appalachian State Teachers College); M.A., 1965 (George Peabody College).
- Haskell E. Harrill, Air-Conditioning and Refrigeration
Diploma, 1936 (Coyne Electrical School).
- James Watt Harter, Psychology
B.S., 1955 (University of South Carolina); M.A., 1963 (Appalachian State Teachers College); additional graduate work at North Texas State University.
- Gayle Melton Hartley, English
A.B., 1960, M.Ed., 1962 (University of North Carolina at Chapel Hill).
- Willmore Browning Hastings, Speech
B.S., 1932 (University of Illinois); M.A., 1961 (Southern Illinois University).
- Linda Heath, Data Processing Technology
B.S., 1963 (University of North Carolina at Greensboro).
- Jane Elliott Heedick, Practical Nursing
Diploma, 1943 (Presbyterian Hospital School of Nursing); additional undergraduate work at North Carolina State University at Raleigh and Queens College.
- James Martin Hesser, Counselor
A.B., 1931 (Ohio Wesleyan University); B.M., 1932 (Ohio Wesleyan University); M.A., 1938 (New York University); additional graduate work at University of Pittsburgh and New York University.
- Bette Bray Holmes, Dental Assisting
C.D.A., 1963 (American Dental Assistant Association); undergraduate work at William and Mary College and Oklahoma A&M.
- Mitzi C. Holton, Associate Degree Nursing
Diploma, 1956 (Presbyterian Hospital School of Nursing); B.S., 1958 (Queens College).
- B. Forney Huffman, Traffic and Transportation
B.S., 1956 (University of Tennessee).
- Claud Caldwell Hunter, Automotive Mechanics
Undergraduate work at North Carolina State University at Raleigh.
- David Lee Hunter, Mathematics
B.S., 1957 (Johnson C. Smith University); M.S., 1965 (Atlanta University); additional graduate study at Rutgers University.
- Dora T. Johnson, Secretarial Curricula
B.S., 1957 (Agricultural and Technical College of North Carolina); M.A., 1960 (Columbia University).
- Fred H. Jones, Physical Science
B.A., 1934 (University of Alabama); M.A., 1953 (Marshall University); Ed.D., 1966, Ph.D., 1967 (University of Virginia).

- James B. Jones, Mathematics
B.A., 1963 (Lenoir Rhyne College); M.A., 1965 (University of South Carolina); additional graduate work at Florida State University.
- A. Victor Kirkman, Counselor
B.A., 1955 (Wake Forest College); M.A., 1964 (Appalachian State Teachers College).
- Jessie Propst Kiser, Director, Nursing Curricula
B.S.N.E., 1957 (Duke University); M.S.N., 1962 (University of North Carolina at Chapel Hill).
- Patsy W. Lacey, Sociology
B.A., 1957 (Northeast Louisiana State College); M.A., 1964 (Louisiana State University).
- Bryon W. Lathan, Applied Mathematics, Applied Science
B.S., 1935 (Appalachian State Teachers College); M.A., 1953 (Appalachian State Teachers College).
- Laura Strunk Leslie, English
A.B., 1929 (Florida State College for Women); M.A., 1949 (Florida State University); additional graduate work at Florida State University.
- Marvin H. Le Vine, Commercial Art and Advertising Design
B.F.A., 1951 (Syracuse University); M.Ed., 1966 (The College of William and Mary); additional graduate work at New York State College for Teachers at Buffalo and Syracuse University.
- Christine R. Lusk, Dental Hygiene
Certificate in Dental Hygiene, 1962, B.S., 1963 (University of North Carolina at Chapel Hill).
- John A. McAlexander, Physics
B.S., 1961 (Appalachian State Teachers College); M.A.T., 1965 (University of North Carolina at Chapel Hill).
- *William Alexander McIntosh, Data Processing Technology
A.B., 1960 (Elon College); M.S., 1964 (North Carolina State University at Raleigh).
- Raymond Via Mason, Automotive Body Repair
Undergraduate work at North Carolina State University at Raleigh.
- Virginia B. Mathis, English
B.A., 1936 (Winthrop College); M.A., 1942 (Duke University); additional work at Columbia University, Florida State University and Harvard University.
- Manuel Matthew Menser, Welding
Undergraduate work at North Carolina State University at Raleigh.
- Charles Therman Milam, Air Conditioning and Refrigeration
Undergraduate work at North Carolina State University at Raleigh.
- Louise Parsons Mills, Counselor
B.S., 1956 (Oklahoma State University); M.A., 1963 (Oklahoma State University).

*Official leave of absence.

- Clinton Price Moody, Commercial Art and Advertising Design
B.S., 1953 (Livingston State College); M.Ed., 1959 (University of South Carolina).
- Juanita Owen Morris, Associate Degree Nursing
Diploma, 1937 (Mercy College of Nursing); Diploma, 1942 (Vanderbilt University Hospital Anesthesia School); B.S., 1949 (Queens College).
- John Deal Morrow, Physics
B.S., 1957 (East Carolina College); M.S., 1967 (University of Tennessee); additional graduate work at North Carolina State University at Raleigh, Appalachian State Teachers College and Oak Ridge Institute of Nuclear Studies.
- Robert A. Morrow, Jr., Mathematics
B.S., 1959, M.S., 1961 (North Carolina State University at Raleigh).
- John A. Needy, Jr., Director of Health and Physical Education
B.S., 1940 (Ohio Northern University); M.A., 1947 (Columbia University); additional graduate work at Indiana University.
- John A. Nelson, Automotive Mechanics
B.S., 1964 (Stout State College).
- Robert Stanley O'Dell, Drafting and Design Technology
B.S., 1951 (East Tennessee State College); M.A., 1959 (East Tennessee State University); additional graduate work at University of North Carolina at Chapel Hill and North Carolina State University at Raleigh.
- Phoebe Oplinger, Head Librarian
A.B., 1946 (Maryville College); M.S.L.S., 1959 (Drexel Institute of Technology).
- R. Meade Owens, Business Administration
B.S., 1925 (Harvard University); M.B.A., 1934 (Harvard University).
- Mary A. Poole, English
B.A., 1960 (Queens College); M.A.T., 1965 (University of North Carolina at Chapel Hill).
- Melinda Poole, Spanish
M.A., 1964 (University of Utah); M.A., 1967 (Florida State University).
- *Arnold Marion Propst, English
B.A., 1951 (Duke University); graduate work at Duke University.
- Julian W. Pyles, Mathematics
B.A., 1950 (Fisk University); M.A., 1954 (University of Michigan); additional graduate work at Carnegie Institute of Technology, Union College and Oberlin College.
- Karl William Reber, Metallurgy
B. Ch.E., 1947 (University of Detroit); M.S.E., 1951 (University of Florida); additional graduate work at University of Tennessee and North Carolina State University at Raleigh.

*Official leave of absence.

- Perry A. Rivkind, Police Science-Criminology
B.S., 1965 (Florida State University); M.Ed., 1966 (Florida Atlantic University).
- Nancy C. Rouzer, History
B.A., (Duke University); M.A.T., 1964 (Winthrop College); additional graduate work at Winthrop College.
- James Howard Sasser, History, Economics
A.B., 1959 (High Point College); M.A., 1960 (George Peabody College for Teachers); additional graduate work at University of North Carolina at Chapel Hill, Western Carolina College and George Peabody College for Teachers.
- Joyce Elizabeth Sigmon, Dental Assisting
Diploma, 1953 (King's College); C.D.H., 1956 (American Dental Assistants Association); undergraduate work at East Carolina College and Central Piedmont Community College.
- Bruce H. Smith, Business Administration
B.A., 1957 (Lenoir Rhyne College); M.B.A., 1964 (Auburn University); Certificate in Municipal Administration.
- Harry Snyder, Dental Hygiene and Director of Dental Curricula
D.D.S., 1941 (Washington University in St. Louis); additional graduate work at New York University.
- George John Soos, Manufacturing Engineering Technology
B.S.E., 1944 (Hungarian Royal Technical Military Academy); Registered Professional Engineer.
- Sidney T. Stovall, English
A.B., 1939 (Duke University); M.A., 1941 (University of Michigan); M.A., 1952 (Columbia University); additional graduate work at University of Colorado.
- Ross Clifford Charles Surphlis, French
B.S., 1959 (St. Louis University); M.A., 1962 (University of Missouri); additional graduate work at the University of Illinois and St. Louis University.
- Earl Donald Talbert, Business Data Processing
A.B., 1951 (Catawba College); additional graduate work at North Carolina State University at Raleigh and Appalachian State Teachers College; Professional Certificate in Data Processing.
- William S. Temple, Mathematics
A.B., 1956 (Lenoir Rhyne College); M.Ed., 1962 (University of North Carolina at Chapel Hill); additional graduate work at Duke University.
- Thomas M. Vance, English
B.S., 1960, M.A., 1962 (Appalachian State Teachers College).
- Edward Francis Waechter, Sr., Machine Tools Laboratory
Undergraduate work at University of Cincinnati, Xavier University and Ohio College of Applied Science.
- Margaret Fincher Wagoner, Secretarial Curricula
B.S., 1961 (Appalachian State Teachers College).

- Sara J. Warren, Secretarial Curricula
B.S., 1966 (Appalachian State Teachers College); M.A., 1967 (Appalachian State Teachers College).
- Dollie Moore Weeks, Associate Degree Nursing
Diploma, 1935 (Warren Candler Hospital School of Nursing);
B.S.N., 1947 (American University); graduate work at William and Mary College and John Hopkins University.
- Shirley C. Wicklund, Librarian
B.S., 1959 (Moorhead State College); M.S., 1967 (Florida State University).
- Julia Rose Wilkinson, Practical Nursing
Diploma, 1936 (Rex Hospital School of Nursing); B.S., 1952 (George Peabody College for Teachers); additional work at North Carolina State University at Raleigh.
- Sam S. Williams, Construction Engineering Technology
B.S., 1935 (Carnegie Institute of Technology); M.S., 1948 (Iowa State College); Registered Professional Engineer.
- David Alexander Yonders, Political Science, Sociology
A.B., 1950, M.Ed., 1952 (Ohio University); additional graduate work at Ohio State University and University of Tennessee.

Part Two

GENERAL INFORMATION

Mailing address

Central Piedmont Community College
1141 Elizabeth Avenue
Post Office Box 4009
Charlotte, North Carolina 28204

Office Hours

Administrative Offices are open from 8:00 A.M. to 5:00 P.M., Monday through Friday.

The Office of Student Services is open from 8:00 A.M. to 9:00 P.M., Monday through Thursday and from 8:00 A.M. to 5:00 P.M. on Friday.

The College telephone number is 372-2590.

Information

Requests for information should be made by mail or telephone to the Office of Student Services.

The College reserves the privilege of changing, without notice, any information in this catalog.

I. THE COLLEGE

Purpose and Objectives

Central Piedmont Community College is a comprehensive community college whose doors are open to any person seeking an education. The College was organized for the purpose of providing educational opportunities at many levels for adults in the community. In providing these opportunities, the College hopes to aid its students to live as contributing members in a democratic and competitive society. The College seeks to accomplish this by:

Providing the first two years of work in the liberal arts and pre-professional fields for those students who wish to transfer to four-year colleges.

Providing occupationally-oriented curricula for those students who wish to enter employment as engineering technicians.

Providing occupationally-oriented curricula for those students who wish to be employed in business and commerce.

Providing occupationally-oriented curricula for those students who wish to enter employment in health related fields.

Providing occupationally-oriented curricula for those students who wish to enter employment in the skilled trades.

Providing a program of general education for the social, cultural and personal development of those individuals who wish to continue their education beyond the high school.

Providing single or combination courses needed by adults in the community to update or upgrade their occupational capabilities to meet the challenges of a changing technological society.

Providing courses for those individuals whose education stopped short of high school graduation and for those who wish instruction in home and family education and leisure time activities.

Providing counseling and guidance services to individuals who desire further education and training.

Providing community educational services for organizations and individuals—including speakers, concerts, resource personnel or materials, special institutes or programs and reading lists as requested.

History

In 1963 the North Carolina General Assembly authorized a system of comprehensive community colleges to be established throughout the state in areas where the need was sufficiently documented. Central Piedmont Community College was established as a part of this system, and in July 1963 it became officially a comprehensive community college. The first programs offered by the College involved curricula in occupationally-oriented areas. The first liberal arts curricula were offered in September 1964.

The College has grown from its initial on-campus enrollment of 1691 in September 1963 to an enrollment of 3215 in September 1966. Recognition of this growth, coupled with an awareness of the prospect of continued development, led the voters of Mecklenburg County to approve in January 1966 a bond issue of three million dollars to assist in financing the first phase of the campus development plan. In January 1967 construction was started on a new classroom building and a new counseling center-administration building. A new learning resources center will be under construction in the fall of 1967.

Location

The campus, situated at 1141 Elizabeth Avenue in downtown Charlotte, is ideally located near the center of the population which it serves and is convenient to public transportation and the expressway system serving the Greater Charlotte area.

Instructional Facilities

The institution is supported by state, federal and local funds and thus is able to provide superior instruction and optimum use of excellent equipment and laboratories at a minimum cost to the student. Present facilities include the following:

Campus and Buildings

The campus includes a parking area and a complex containing a library, classrooms and well-equipped, modern laboratories and specialized shop areas.

Library Facilities

The library has a collection of over 15,500 books and catalogued pamphlets and receives over 160 periodicals. New titles are being added continually. The open-shelf system is used and students are encouraged to browse and use the reading room as a quiet place to study.

Studios, Laboratories and Shops

Ample opportunity for students to make practical application of their classwork is an inherent part of many programs offered at the College. The campus complex contains numerous laboratories, shops and specialized instructional areas. Each of these areas is furnished with the best equipment available.

Programmed Materials Laboratory

The programmed materials laboratory is a self-instructional center wherein some of the newest methods of educational technology are used. With the guidance of instructors, students use self-paced, learner-controlled teaching materials that extend the College's comprehensive instructional programs to meet further the individual needs of students by providing developmental, supplemental and general interest studies. Students with limited high school backgrounds have an opportunity to prepare to enter any curriculum of the College. The laboratory further provides supplementary or general interest studies for students enrolled in curriculum courses who need or desire study at levels or in areas not covered in the classroom. While the principal areas of programmed instruction are reading, English, arithmetic and algebra, students may also study subjects such as chemistry, calculus, trigonometry, French, German, Spanish, poetry, writing and geography.

Ansonville Unit

The College maintains in Anson County a Unit at Ansonville, North Carolina. This Unit offers vocational curricula and non-curriculum courses as needed by the area which it serves. Further information may be obtained by contacting

The Director, Ansonville Unit
Central Piedmont Community College
Box 68
Ansonville, North Carolina

Building Program

The College has developed a Master Plan of Campus Development which is designed to meet its present and future needs. The first phase of this plan includes the acquisition of additional property adjacent to the present campus and the construction on this property of a new classroom building, a new counseling center-administration building and a new learning resources center. Construction of the classroom building and the counseling center-administration is now under way, with completion slated for January 1968. Construction of the learning resources center is expected to begin in the Fall of 1967. Financing of the first phase of the Master Plan is provided by federal and state funds and a bond issue of three million dollars approved in 1966 by the voters of Mecklenburg County.

Accreditation

Central Piedmont Community College is approved by the North Carolina State Board of Education. It is a member of the American Association of Junior Colleges and the North Carolina Association of Junior Colleges.

Central Piedmont Community College has established contact with the Southern Association of Colleges and Schools and has declared its intention to work closely with the Association in pursuit of accreditation and membership at the earliest date. Application for regional accreditation will be made after the College has graduated two classes and other requirements have been met.

II. ACADEMIC INFORMATION

Programs of Instruction

The College is organized into four instructional divisions: the Transfer Division, the Trade and Technical Division, the General Adult Division and the Extension Division. These divisions offer five general instructional programs.

1. The Two-Year Liberal Arts Program Leading to the Associate in Arts Degree

The purpose of the Liberal Arts Program is to provide curricula in liberal arts and the pre-professional areas which will enable the student to enter as a junior at the four-year institution of his choice. While the Liberal Arts curricula suggested in Part Two of this catalog will satisfy the requirements of most senior institutions, it is the student's responsibility to identify as early as possible the institution to which he will transfer and to ascertain the specific requirements of that institution for the freshman and sophomore year. Each student's curriculum should be planned by the student and his faculty advisor with a specific four-year institution in mind.

2. The Two-Year Technical, Health and Business Program Leading to the Associate in Applied Science Degree

This program offers business curricula, health-related curricula, and curricula in engineering technologies. These curricula are designed to enable the graduate to enter an occupation with a marketable skill, a high level of competency and the ability to communicate intelligently. The curricula provide not only highly specialized courses to develop occupational skills but also general education courses to

enable the student to be an effective member of society. The following curricula are included in this program:

Accounting and Business Administration; Data Processing, with option of specializing in Business or Scientific; Chemical Technology; Commercial Art and Advertising Design; Construction Engineering Technology; Dental Hygiene; Mechanical Engineering Technology, with option of specializing in Drafting and Design or Manufacturing; Electrical-Electronics Engineering Technology, with option of specializing in Electrical or Electronics, Associate Degree Nursing; Secretarial, with option of specializing in Executive, Legal or Medical; Traffic and Transportation.

The College is now developing a two year Associate in Applied Science Degree curriculum in Police Science-Criminology. Inquiries regarding this new curriculum should be addressed to the Office of Student Services.

The College, in cooperation with Rowan Technical Institute, also offers training leading to the Associate in Applied Science degree in Fire Service Technology. Classes are scheduled so that persons presently employed as firemen may take them during off-duty time at night. Inquiries may be addressed to Rowan Technical Institute or Central Piedmont Community College.

3. The One-Year Vocational Program Leading to a Diploma

This program offers curricula designed to meet the ever increasing need of our complex society for skilled craftsmen. A graduate from a vocational curriculum should enter employment with a high degree of manipulative skill. The graduate also gains knowledge of basic mathematics, science and communication. The following curricula are available: Automotive Body Repair; Automotive Mechanics; Dental Assisting; Air-Conditioning and Refrigeration; Machinist; Medical Office Assisting; Practical Nursing; Welding.

4. The Adult Continuing Education Program

The Adult Continuing Education Program strives to meet the needs of the adult out-of-school population of the area by:

Providing general education opportunities to those who desire pre-high school courses, high school completion courses and cultural and enrichment courses.

Providing extension courses to those who desire vocational training, retraining or upgrading.

No College credit is granted for these courses; however, a certificate is awarded upon completion of many of them. Most, but not all, of these classes meet off-campus to fill a specific need at a specific time. Almost any education need of the community not being met by a regular curriculum class can be met by the Adult Continuing Education Program. Information about courses now being offered may be found in part three of this catalog.

5. The Developmental Studies Program

The Developmental Studies Program is designed for the student whose level of achievement at the time of admission to the College indicates a low probability of success in curriculum courses. The Developmental Studies Program consists of conventional classroom instruction and individualized study in the programmed materials laboratory.

Admission Requirements

Central Piedmont Community College, following an "open door" policy, does not impose restrictive standards for admission to the College. Admission to the College, however, does not necessarily imply immediate admission to the curriculum desired by the student. Before the student is admitted to any curriculum a counseling interview is arranged and, in most cases, a series of aptitude and placement tests is scheduled. This process aids the student in evaluating his potential for success in the curriculum of his choice. When scores on tests or other evidence indicates a lack of readiness to commence a specific curriculum, the student will be assigned to the Developmental Studies program, to the Adult Continuing Education Program, or he may be encouraged to re-evaluate his occupational and educational goals.

All degree curricula require high school graduation or the equivalent. The high school graduation requirement is considered to have been met by graduation from high school, possession of a State High School Equivalency Certificate or possession of an Adult High School Diploma.

Admission to a diploma curriculum is permitted upon demonstration of an aptitude for the particular curriculum as determined by tests, counseling interviews and personal interest.

Requirements for admission to the various Adult Continuing Education courses depend on the course involved. Specific information may be obtained about particular courses by contacting the Office of Student Services of Central Piedmont Community College.

Central Piedmont Community College will accept credits from other colleges, technical institutes and industrial education centers. Only courses applicable to the desired program at Central Piedmont Community College in which grades of "C" or better have been made will be accepted for credit. The Office of Student Services will evaluate the transcript and determine the courses which are transferable.

Admission Procedures

Applicants wishing to enroll in any curriculum offered by the College should:

1. Obtain an application form from the Office of Student Services.
2. Submit the properly completed application along with a \$2.00 testing fee to the Office of Student Services.
3. Request that a transcript of all high school, pre-college and college work be sent directly to the Office of Student Services.
4. Take an appropriate pre-enrollment test battery if deemed necessary by the Office of Student Services.
5. Have an interview with a counselor and/or departmental advisor during which the applicant's test scores, and previous scholastic record will be evaluated and the applicant will be advised regarding eligibility to enter the desired curriculum. A first quarter schedule will be suggested.
6. Register for the suggested schedule during the regular registration period.

While most new students will be seeking enrollment in a curriculum and should follow the steps listed above, the College recognizes that many adults in the community will wish to register for one or

more courses as a student not a candidate for a degree or diploma (SNCD). In order to encourage this type of interest the College will allow a qualified person to be admitted to the College and enroll for courses without taking the pre-enrollment test battery provided the person does not wish to enter a degree or diploma curriculum.

The College reserves the privilege of limiting the number of quarters during which a student may maintain this special status.

Admission procedures for courses offered in the Adult Continuing Education Program are announced when appropriate.

While students may complete the entire admission procedure during the registration period, advance completion of the first four steps is advised since it will insure adequate counseling and entry into a program in which enrollment may be limited.

Registration

The College year consists of four quarters. Students who are pursuing a curriculum must register at the beginning of each quarter as they progress toward their educational objectives. All students will register during the prescribed registration period for that quarter (refer to school calendar).

Continuing students have the opportunity to preschedule their courses before the beginning of a quarter. Students who take advantage of this opportunity are assigned a specific hour for registration. Students who are not a candidate for a degree or a diploma (SNCD) may not register until after 4:00 P.M. on the second day of registration. A minimum of one third of tuition charges must be paid at the time of registration.

Late Registration

A student may register late **prior to the first meeting of class(es)** for which he is registering, providing

1. The class is not cancelled or closed
2. The student pays \$5.00 late registration fee in full at time of late registration
3. The student was pre-advised or otherwise fully admissible to the courses for which he registers
4. The student convinces his Dean and the Dean of Student Services that it was impossible or would have involved extreme hardship for him to register at the appointed time.

Calendar

Summer Quarter, 1967

Registration	May 29, 30
Classes begin	May 29, 30
July 4 Break Begins	June 30
Classes Resume	July 5
Last day of classes for quarter	August 18

Fall Quarter, 1967

Registration	September 27, 28
Classes begin	October 2
Thanksgiving break begins at 10:30 p. m.	November 22
Classes resume	November 27
Last day of classes for quarter	December 19

Winter Quarter, 1968

Registration	January 4, 5
Classes begin	January 9
Last day of classes for quarter	March 25

Spring Quarter, 1968

Registration	March 27, 28
Classes begin	April 1
Easter break begins at 10:30 p. m.	April 11
Classes resume	April 18
Last day of classes for quarter	June 20

Summer Quarter, 1968

Registration	July 9, 10
Classes begin	July 12
Labor Day holiday	September 2
Last Day of classes for quarter	September 13

Fall Quarter, 1968

Registration	September 30, October 1
Classes begin	October 3
Thanksgiving break begins at 10:30 P. M.	November 27
Classes resume	December 2
Last day of classes for quarter	December 20

Registration Priority

Any first-time student may be assured a place in a diploma or degree curriculum upon payment of a \$15.00 fee (non-refundable) before the official registration period. This registration priority fee will be credited to tuition charged for the quarter in which reserve space is requested. In order to claim the registration priority thus established, the student must register during the period assigned to pre-scheduled students. Returning students may establish registration priority by pre-scheduling their courses prior to the registration period. Students not candidates for a degree or a diploma (SNCD) may not establish registration priority.

Class Attendance

Absences are a serious deterrent to good scholarship; it is impossible to receive instruction, obtain knowledge or gain skill when absent. As all students are adults with many responsibilities, an occasional absence from class might be absolutely necessary; however, such absences in no way lessen the student's responsibility for meeting the requirements of the class. There is always a direct relationship between the number of class absences and the final grade. It is the student's responsibility to contact the instructor for any missed assignments. Explanation for missing a class will not be demanded, but, as a matter of courtesy, the reason for an absence should be given to the instructor.

Withdrawal from Classes

Students must notify the Student Services Office when they plan to withdraw from a course or program. Failure to withdraw officially results in the automatic assignment of an "F" grade for the work attempted.

A student who officially withdraws before the end of the fifth week of the quarter will receive a grade of "W." The grade of "W" will carry no penalty as it will not count as hours attempted.

After the fifth week, a student who is passing may withdraw officially at any time before the final examination and receive a grade of "W." A student who withdraws from the course after the end of the fifth week and who is failing receives a grade of "F."

Under no circumstances will a student receive a "W" unless he has properly dropped the course and his instructor has been officially notified by the Office of Student Services.

Course Load

A degree or diploma student who is registered for the equivalent of at least 12 quarter hours of credit is considered a full-time student.

The suggested contact hours per quarter shown for each curriculum in the catalog are minimal. It is a policy of this College to permit students to enroll in additional subjects and laboratory work beyond those shown in the catalog.

When in any quarter the total weekly contact hours listed are fewer than twenty-five hours in a technical curriculum and fewer than thirty hours in a vocational trade curriculum, a student may enroll on request for additional instructional hours deemed by the College to be consistent with the program and appropriate to the student to make up twenty-five hours per week in a technical curriculum or sufficient hours of attendance to make up thirty hours per week in a vocational trade curriculum.

Grading System

Letter Grades

The following letter grades are used at Central Piedmont Community College:

Letter	Numerical Equivalent	Description	Quality Points Per Quarter Hour
A	94-100	Excellent	4
B	85-93	Good	3
C	77-84	Fair	2
D	70-76	Passing	1
F	Below 70	Failing	0
W		Withdrawn from class	
S		Satisfactory	
U		Unsatisfactory	

Incompletes

A grade of "F" is assigned when course work is incomplete. This grade can be removed if the course is completed satisfactorily before the end of the following quarter.

Quality Point Average

A student's quality point average is the equivalent of his numerical average for all course work attempted. As the student progresses toward graduation and/or transfer, his quality point average of 2.0 is equivalent to an average grade of "C" on all courses attempted. The student should refer to the **Student Handbook** for instructions pertaining to the calculation of his quality point average.

Probation and Suspension

Any student whose cumulative quality point average is less than 2.0 at the end of any full term is placed on academic probation and will be requested to report to the Office of Student Services for counseling. The counselor will attempt to identify the problems of the student, and may direct the student to a program for which he is better qualified.

A student will not be allowed to continue in a program without special permission from the Office of Student Services if his cumulative quality point average is below the following values:

Attempted Hours	Quality Point Average
0-17	1.00
18-34	1.25

Attempted Hours	Quality Point Average
35-51	1.50
52-68	1.75
69-84	1.75
85-above	1.90

Those students seeking any degree must have a 2.0 quality point average at 96 attempted credit hours.

Graduation

Graduation exercises are held each year. Central Piedmont Community College awards two degrees: the Associate in Arts Degree upon completion of an approved two-year curriculum of liberal arts courses; and the Associate in Applied Science Degree upon completion of an approved two-year curriculum of study designed to prepare the student to enter an occupation. A diploma is granted upon completion of a one-year program of vocational study. Degrees and diplomas are conferred only during the graduation exercises.

The requirements for a degree are as follows:

1. Completion of a minimum of 96 hours in an approved curriculum.
2. A minimum of 32 quarter hours earned in residence at Central Piedmont Community College, 16 of which must be the final credit hours earned prior to graduation.
3. A cumulative quality point average of 2.0 in credit work.

The requirements for a diploma are as follows:

1. Completion of an approved one year vocational curriculum.
2. A minimum of 32 quarter hours earned at Central Piedmont Community College, 16 of which must be the final hours of credit earned prior to graduation.
3. A cumulative quality point average of 2.0.

III. FINANCIAL INFORMATION

Tuition and Fees

Since the College receives financial support through local, state and federal sources, tuition is very low. Tuition charges are set by the North Carolina State Board of Education and are subject to change without notice. Students applying for admission to a program may pay an optional registration priority fee of \$15.00. This fee guarantees the student a position in the program if he meets the standards for admission. For in-state students registered for credit courses, tuition and fees are as follows:

Fees

Student Publication and Activity Fee—\$.50 per quarter

Tuition

Associate in Arts Curricula

Students enrolled for 15 quarter hours or more—\$42.00 per quarter

Students enrolled for fewer than 15 quarter hours—\$3.00 per quarter hour

Associate in Applied Science and Vocational Curricula

Students enrolled for 15 quarter hours or more—\$32.00 per quarter

Students enrolled for fewer than 15 quarter hours—\$2.50 per quarter hour

Tuition charged for non-credit classes in the Continuing Education Program depends on the nature of the class. Basic adult education classes and adult high school completion classes have no tuition. Instructional materials fees for certain classes are set to meet the specific need for the particular type of class or seminar being conducted.

The student publication and activity fee and a minimum of one third of tuition are payable at registration.

Out-of-state students will pay tuition two and one-half times the in-state rate. A definition of legal residency as established by the Attorney General's Office follows.

Residence Status

A legal resident of North Carolina is one who has his domicile in this state. It is important that each applicant for admission and each enrolled student know his residence status for tuition payment and understand the regulations governing residence status. The following regulations cover most factual situations.

1. A person twenty-one years of age or older is not deemed eligible for the lower tuition rate unless he has maintained his legal residence in North Carolina for at least the six months next preceding the date of his first enrollment in an institution of higher education in this state.

2. The legal residence of a person under twenty-one years of age at the time of his first enrollment in an institution of higher education in this state is that of his parents, surviving parent or legal guardian. In cases where parents are divorced or legally separated the legal residence of the father will control unless custody of the minor has been awarded by court order to the mother or to a legal guardian other than a parent. No claim of residence in North Carolina based upon residence of a guardian in North Carolina will be considered if either parent is still living unless the action of the court appointing the guardian antedates the student's first enrollment in a North Carolina institution of higher education by at least twelve months.

3. The residence status of any student is determined as of the time of his first enrollment in an institution of higher education in North Carolina and may not thereafter be changed except: (a) in the case of a nonresident minor student at the time of his first enrollment whose parents have subsequently established legal residence in North Carolina; and (b) in the case of a resident who abandons his legal residence in North Carolina. In either case, the appropriate tuition rate will become effective at the beginning of the semester or term next following the date of change of residence status.

4. The legal residence of a wife follows that of her husband, except that a woman student currently enrolled in this institution as a resident may continue as a resident even though she marry a non-resident.

5. Military personnel attached to military posts or reservations in North Carolina are not considered eligible for the lower tuition rate unless they have maintained a legal residence in the state for at least the six months next preceding the date of first enrollment in an institution of higher education in the state.

6. Aliens lawfully admitted to the United States for permanent residence who have established a legal residence in North Carolina according to paragraphs numbered 1, 2, or 4 above, are eligible for the lower tuition rate.

7. Ownership of property in or payment of taxes to the state of North Carolina apart from legal residence will not qualify one for the lower tuition rate.

Any student or prospective student in doubt concerning his resi-

dence status must bear the responsibility for securing a ruling by stating his case in writing to the comptroller of Central Piedmont Community College.

Refund Policy

Two-thirds of the tuition paid by a student will be refunded if the student withdraws from the College within ten calendar days after the first day of classes as published in the College calendar. If a student voluntarily withdraws from a class while remaining enrolled in College, he will receive no refund for courses dropped. If a class is cancelled by the College, that portion of a student's tuition which was paid for the cancelled class will be refunded in full. Changes permitted by the Office of Student Services during the registration period are adjusted in full.

The activity-publication fee is not refundable. Tuition refunds of \$5.00 or less will not be made except for classes cancelled by the College.

Financial Aid

Students who need financial aid can receive assistance from four sources: (1) scholarships, (2) short- and long-term loans, (3) The College Work-Study Program, and (4) Educational Opportunity Grants. In addition, there are other programs of special interest to veterans and disabled persons. Students should make known their need for financial assistance when filing application for admission. Requests for financial aid should be made through the Office of Student Services.

Scholarships

The total value of a scholarship awarded to a student is payable in amounts prorated to each quarter of the College year. The initial grant is made for one quarter; upon evidence of satisfactory performance by the recipient the grant is renewable for a maximum of three succeeding quarters. A grant for a second year may be made upon re-application to the Office of Student Services. Students who are now attending a school in the Charlotte-Mecklenburg system should seek the assistance of their counselor in obtaining a scholarship.

Scholarships available at this date are:

Barnhardt Manufacturing Company Scholarships

These scholarships are donated by the Barnhardt Manufacturing Company of Charlotte. The maximum amount available to a student in any one year is \$200.

Charles A. Moss Scholarship

This scholarship, awarded annually to one student taking the Practical Nursing curriculum, covers the cost of all tuition, fees and textbooks.

Charlotte Automotive Wholesalers Scholarship

The Charlotte Automotive Wholesalers make this scholarship available to students taking either the Automotive Mechanics or Auto Body Repair curriculum.

Charlotte Chapter of National Secretaries Association Scholarship

This scholarship is awarded to students in the Executive Secretarial curriculum.

Charlotte Memorial Hospital Auxiliary Scholarships

Two scholarships of \$1000 per year each are awarded annually

to one first-year student and one second-year student enrolled in the Associate Degree Nursing curriculum. The recipient agrees to accept employment at Charlotte Memorial Hospital for a period of one year following graduation or to donate one-half the amount of the scholarship to the Charlotte Memorial Auxiliary Scholarship Fund.

Colorel J. N. Pease Scholarship

These scholarships are awarded to students in the areas of Pre-Engineering, Construction Engineering, Manufacturing Engineering, or Drafting and Design. An award of \$200 is given to each recipient.

Concrete Materials, Inc., Scholarship

Concrete Materials, Inc., makes available scholarships of \$200 to students studying in the Construction Engineering curriculum.

Concrete Supply Company Scholarship

Several \$200 scholarships are awarded by Concrete Supply Company to students in the Construction Engineering curriculum.

Dickson Foundation Scholarship

The Dickson Foundation makes available a \$750 scholarship to a student enrolled in the Associate Degree Nursing curriculum.

Health Program Scholarships

A Charlotte church has made possible several scholarships to be used for students enrolled in the College's health curricula. The maximum scholarship available is \$200 for one year.

Jefferson Standard Foundation Scholarship

One two-year scholarship of \$200 per year is awarded annually to a deserving student. This is donated by Jefferson Standard Broadcasting Company.

Pelton and Crane Scholarship

Pelton and Crane Company each year give two scholarships to students in the Dental Hygiene curriculum and two scholarships to students in the Dental Assisting curriculum.

Richmond Dental Cotton Company Scholarship

These scholarships, donated by the Richmond Dental Cotton Company, Charlotte, are awarded to students enrolled in one of the College's dental curricula. The maximum amount awarded to a student in any one year is \$200.

Ruth Moss Easterling Scholarship

This scholarship of \$150, donated by the Metropolitan Business and Professional Women's Club of Charlotte, is awarded annually to a woman student.

Schoenith Foundation Scholarship

A scholarship of \$929 is given by the Schoenith Foundation to a student in the Associate Degree Nursing curriculum. One half of this award must be repaid.

Terrell Machine Company Scholarships

The Terrell Machine Company of Charlotte contributes annually two scholarships of \$200 each to be awarded to deserving students in the Manufacturing Engineering Technology, Drafting and Design Technology or Machinist Curricula.

Short-Term Loans

A revolving loan fund was established in 1964 at Central Piedmont Community College for the benefit of students who, at the time of registration, do not have all the necessary money to pay for tuition, fees, books and supplies. Students who need small emergency loans and who state that this is a temporary condition may apply for a short-term loan. These loans are made, interest free, for a maximum period of sixty days. Donors to this fund include local businesses, civic organizations and individuals.

Long-Term Loans

National Defense Student Loans

Central Piedmont Community College is participating in the National Defense Student Loan Program. This program makes funds available to freshmen or sophomores who are taking at least a half-time schedule in one of the Associate Degree programs. The College share, 10 per cent, is being contributed by civic organizations.

The National Defense Student Loan Program makes provisions for students to borrow up to \$1,000 in any one year. Three per cent interest per year is charged on the unpaid balance, beginning nine months after the borrower ceases to pursue a course of study at an institution of higher learning. The total loan must be repaid in ten years. Students may make application through the financial aid counselor in the Office of Student Services.

The College Foundation, Inc.

The College Foundation, Inc., Raleigh, North Carolina, administers several loan funds, including the North Carolina Bankers Student Loan Plan and the James E. and Mary Z. Bryan Foundation Student Loan Plan. Students of Central Piedmont Community College may apply for these loans through the Office of Student Services.

The College Work-Study Program

The College participates in the Federal College Work-Study Program whereby a needy student may earn money for college expenses by working at the College. Students are permitted to work a maximum of 15 hours per week. The College share is contributed by the Central Piedmont Community College Foundation, Inc.

Requests for information should be directed to the Office of Student Services.

Educational Opportunity Grants

The Educational Opportunity Grants were established in the Higher Education Act of 1965 for students from families of modest incomes, with particular attention given to those families whose incomes allow little if any contribution toward college expenses. These funds are administered by the College. Eligible students should apply through the Office of Student Services.

Financial Assistance for Veterans, War Orphans and the Disabled

The College provides educational opportunities for veterans, war orphans and children of totally disabled veterans. Veterans seeking training under the provisions of Public Laws 894 and 87-815 (Veterans Vocational Rehabilitation Program), Public Law 89-358 (Veterans Readjustment Benefits Act of 1966), war orphans seeking train-

ing under Public Law 634 (War Orphans Educational Assistance Act of 1956), and children of totally disabled veterans desiring benefits of Public Law 88-361 should contact the Office of Student Services or the Mecklenburg County Veterans Service Office.

The College also assists students seeking North Carolina Veterans Commission Scholarships and North Carolina Vocational Rehabilitation Assistance. Students desiring assistance in these areas should contact the Office of Student Services.

Foreign Students

Any foreign student who is in school, or who is seeking admittance under an F-1 visa, should contact the Foreign Student Advisor in the Office of Student Services. The Advisor will be glad to assist in matters such as extension of stay, possible employment or transfer for additional education.

IV. THE STUDENT AND THE COLLEGE

The College is aware that college life creates new challenges for students. To aid the student in meeting these challenges and to provide opportunities for the maximum development of each student, the College supports a number of services and activities to supplement the academic program.

Guidance and Counseling

Educational, vocational and personal counseling is available to students at Central Piedmont Community College from two sources: the Office of Student Services and the Faculty Advisory System.

The Office of Student Services provides admission counseling to help the student decide whether the program for which he has applied is realistic and whether it will satisfy his educational needs and vocational goals. The Office of Student Services counsels frequently with all students who are either assigned to developmental work or are on academic probation. Personal-social counseling is also available to any student who wishes to take advantage of this service.

Each student, after admission to the College, is also assigned to a faculty advisor. This advisor assists the student in planning his course schedules. The faculty advisor can inform the student of his academic progress and quality point average and suggest improvements or changes needed.

Bookstore

It is the student's responsibility to obtain the required textbooks and supplies prior to the first meeting of a class. The College maintains a bookstore from which the student may purchase the necessary books and supplies. The bookstore will buy used books from students when possible.

Parking

The campus includes a paved and well-lighted parking area. Students may use all of this area except those portions reserved for faculty parking.

Snack Bar

The College provides vending machines and an eating area for food and soft drinks.

Student Lounge

A student lounge is provided adjacent to the snack bar. Students are encouraged to use this area for relaxation between classes, and for social gatherings and group meetings.

Lost and Found

The Office of Student Services operates a lost and found service. Any articles found should be turned into this office. Any student losing an article should contact this office.

Housing

The College does not provide living accommodations for students; however, a card file listing of available rooms and apartments is maintained in the Office of Student Services. Most of these accommodations are within walking distance of the College or are conveniently located to bus service. Associate Degree nursing students who reside outside the city limits of Charlotte may secure rooms at the Charlotte Memorial Hospital Nursing dormitory. In all cases the student is responsible for making arrangements to secure housing.

Student Conduct

College students are considered to be mature individuals. Their conduct, both in and out of College, is expected to be that of any respectable adult in a public place. Under these circumstances it is expected that the student will at all times remember that he is living in a democratic situation and that the reputation of the institution rests on his shoulders. Common courtesy and cooperation make the above suffice for a long list of rules and penalties.

Student Government

Every student has a voice in school affairs through the Student Government. Social events, interest clubs, athletic organizations and professional societies are planned and organized through the Activities Committee. Active and proposed organizations are chorus, dramatic club, Young Democrats' Club and Young Republicans' Club and Phi Beta Lambda; also there are student chapters of National Education Association, National League for Nursing, Licensed Practical Nurses and American Dental Hygienists' Association.

Student Publications

The Prospector, published monthly, is the official student newspaper. The staff welcomes contributions from students and faculty.

The Newsletter is a weekly publication of announcements and bulletins of general interest.

The Student Handbook, published annually, contains items of information helpful to the student in his life on campus.

Social and Cultural Events

The College will sponsor a number of social and cultural events during the year. Included in these activities will be dances, concerts and lectures.

Part Three

The Adult Continuing Education Program

The Adult Continuing Education Program of Central Piedmont Community College provides general adult and extension courses for those individuals whose education stopped short of high school graduation, for those who wish instruction in home and family education and leisure time activities and for those who need short-term training, retraining or upgrading in a vocational or professional area.

College credit is not given for completion of courses in the Adult Continuing Education Program, however, a certificate is awarded by the College in some cases. Licenses, diplomas or other forms of recognition are awarded by certain non-College agencies upon successful completion of designated course sequences.

Tuition and fees for courses in the Adult Continuing Education Program depend upon the nature of the course. No tuition or fee is charged for basic adult or adult high school completion courses.

Admission requirements for courses in the Adult Continuing Education Program depend upon the nature of the course. Admission to most of these classes is gained by registering during the regular College registration period; entry into some may be made at any time in the quarter. While some of these classes are conducted on the College campus, most are in adult centers which are located in schools scattered throughout the area or in other locations appropriate to the nature of the course.

Specific information about a specific course may be obtained from the College. General information about the present types of course offerings may be found in the following section. Other types of non-credit courses may be offered to meet expressed needs of the community when evidence of these needs is presented to the College.

I. EXTENSION COURSES

Supervisory Development Training

Supervisory Development Training Classes train persons interested in becoming supervisors and provide instruction for supervisors at various levels of management as preparation for advancement.

Classes available to supervisory personnel are:

- Human Relations
- Economics in Business and Industry
- Art of Motivating People
- Effective Communications
- Effective Writing
- Effective Speaking
- Reading Improvement
- Work Measurement
- Job Methods
- Conference Leadership

Creative Thinking
Industrial Safety and Accident Prevention
Industrial First-Aid
The Supervisor in North Carolina
The Supervisor and Employee Benefits
Job Analysis Training
Cost Accounting for Supervisors

Fire Service Training

A growing Piedmont area of North Carolina requires expansion of fire fighting units and an up-grading of fire service personnel. The need for better trained personnel in latest techniques is met through training provided by the College.

Fire Service Training is taken directly to the individual fireman. Training sessions are held in the local fire departments allowing the men to be trained as an organized group utilizing equipment they would ordinarily use in controlling fire.

Fire Service classes include:

Forcible Entry
Rope Practices
Portable Fire Extinguishers
Ladder Practices
Salvage and Overhaul Practices
Fire Apparatus Practices
Ventilation
Rescue Practices
Protective Breathing Equipment
Firefighting Procedures

These are non-credit courses. The College in cooperation with Rowan Technical Institute also offers an associate degree curriculum in this area.

Apprenticeship and Licensure Training

Many men learn a trade by working on the job where they acquire skills by using the tools of the trade. The College offers opportunities for these men to acquire related instruction in the classroom at night. Several of the trade areas in which related instruction is available are:

Electrical Code
Electrical Apprentice
Sheet-Metal Apprentice
Plumbing and Steamfitting Apprentice

Course sequences and course descriptions may be obtained from the College.

Law Enforcement Training

A growing need for better trained law enforcement officers is another area in which the College offers an opportunity for training. Police Recruit Schools and Police Seminars are conducted several

times a year in order to meet these training needs. These are non-credit courses. The College is now developing an associate degree curriculum in Police Science-Criminology.

MDTA Courses

Under the provisions of the Manpower Development Training Act (MDTA) persons who are unemployed or underemployed are eligible for certain types of training. In cooperation with the Employment Security Commission of North Carolina, the College offers specialized course work as scheduled by the Commission.

New Industry Training

The College offers specialized courses as needed to meet the needs of new industries in the area for workers with specific skills.

Training for Teachers of the Preschool Child

Emphasis in these classes is placed on the social, emotional and psychological development of the preschool child as it relates to his readiness for specific activities. Much of the student's time is devoted to learning and practicing creative methods of presenting activities to the preschool child.

II. GENERAL ADULT COURSES

Pre-High School Basic Adult Education

The Adult Continuing Education Division of Central Piedmont Community College offers classes in fundamental education to those persons who are between the levels of grade 0.0 and grade 8.9. Adults in the Pre-High School classes are divided into three levels.

Level I — Grade 0.0 — Grade 3.9

Level II — Grade 4.0 — Grade 6.9

Level III — Grade 7.0 — Grade 8.9

Upon completion of Grade 8.9, an adult is eligible to enroll in high school completion courses to obtain an adult high school diploma.

High School Completion

Adults who have not graduated from high school may earn an adult high school diploma through the high school completion courses offered by the College. The adult high school diploma is an earned diploma granted by the local Board of Education upon certification of eligibility by the College.

An adult who has not met the requirements for high school graduation by having completed four units of English, one unit of mathematics, two units of general science and biology, and one unit of American History must enroll for at least one quarter in each subject in which there is a deficiency. At the completion of a quarter and upon recommendation of the teacher a standardized test will be administered by the College. If a satisfactory level of achievement is indicated by the test score the student will be credited with having

completed the subject and will be given credit toward graduation. English and mathematics must be completed first. If no high school credits have been earned, the adult must enroll for at least one quarter in a pre-high school class to demonstrate the possession of a functional eighth grade education. Upon completion of all requirements, the adult is recommended to the local Board of Education as eligible to receive the Adult High School diploma. The local Board of Education, according to previous agreement with Central Piedmont Community College, then issues the high school diploma.

GENERAL INTEREST COURSES

The Adult Education Division offers courses for pastime and pleasure designated General Interest. These off-campus courses are offered whenever interest is indicated by 15 or more persons. Courses which are offered include:

- Interior Design
- Personal Typing
- Know Your Automobile (For Women)
- Flower Arranging
- Personal Financing
- Art
- Hobby Photography

HOME AND FAMILY COURSES

Other classes designed to improve the average family—designated Home and Family—also are offered whenever interest is indicated by 15 or more persons. Courses which are available include:

- Sewing
- Exercise and Weight Control
- Quantity Cooking
- Child Care

Part Four

The Associate in Applied Science Degree Program

Descriptions

of

Business, Health and Technical Courses

And Curricula

Leading To The

ASSOCIATE IN APPLIED SCIENCE DEGREE

The following section of the Catalog contains descriptions of the curricula listed below.

- I. Associate Degree Nursing
- II. Business Curricula
 - Accounting
 - Business Administration
 - Traffic and Transportation
- III. Chemical Technology
- IV. Commercial Art and Advertising Design
- V. Construction Engineering Technology
- VI. Dental Hygiene
- VII. Electrical—Electronics Engineering Technology
- VIII. Electronic Data Processing: Business
- IX. Electronic Data Processing: Scientific
- X. Mechanical Technology
 - Drafting and Design Option
 - Manufacturing Engineering Option
- XI. Secretarial Science Curricula
 - Executive Secretary
 - Legal Secretary
 - Medical Secretary

ASSOCIATE DEGREE NURSING

The need for adequately prepared registered nurses is acute, and this need is increasing. As advances in medical science continue to expand the life expectancy of individuals, the growth in population increases the demand for nursing services. Nursing is devoted to conserving life and promoting health; it is based upon scientific knowledge, nursing skills, and an understanding of the nature and needs of human beings in health and in sickness. The course of study leading to an Associate Degree in Nursing prepares the nurse to serve effectively in general duty nursing positions in hospitals and comparable settings.

DESCRIPTION OF CURRICULUM

The degree Associate in Applied Science in Nursing will be awarded upon successful completion of this curriculum, and graduates will be eligible to take the State Board examinations of licensure as registered nurses. The educational program consists of the study of nursing theory and practice interwoven with general education subjects such as the basic sciences, social sciences and English. These classes meet on the college campus, and nurses are in classes with other college students. Nursing experiences with patients are planned in the modern, up-to-date facilities of Charlotte Memorial Hospital and in other community health agencies. Clinical experiences are carefully selected for educational purposes. These experiences include the care of patients with medical, surgical and psychiatric problems, and the care of mothers, infants and children.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per Class	Week Lab.	Quarter Hours Credit
FIRST QUARTER					
ENG	101	English Composition I	3	0	3
BIO	110	Human Anatomy and Physiology I	4	2	5
PSY	201	General Psychology	5	0	5
T-NUR	101	Introduction to Medical-Surgical Nursing	4	6	6
			16	8	19
SECOND QUARTER					
ENG	102	English Composition II	3	0	3
BIO	111	Human Anatomy and Physiology II	4	2	5
PSY	202	Human Development	5	0	5
T-NUR	102	Medical-Surgical Nursing I	3	9	6
			15	11	19
THIRD QUARTER					
ENG	103	English Composition III	3	0	3
BIO	150	General Bacteriology	4	2	5
SOC	201	Introduction to Sociology	5	0	5
T-NUR	103	Medical-Surgical Nursing II	3	9	6
			15	11	19

FOURTH QUARTER

T-CHM	150	Chemistry	4	2	5
T-NUR	201	Maternal and Child Health Nursing I	5	15	10
			9	17	15

FIFTH QUARTER

SOC	203	Marriage and the Family	5	0	5
T-NUR	202	Maternal and Child Health Nursing II	5	15	10
			10	15	15

SIXTH QUARTER

SPH	101	Oral Communication	3	0	3
T-NUR	203	Physical and Mental Health Nursing I	5	15	10
			8	15	13

SEVENTH QUARTER

T-NUR	205	Trends in Nursing	3	0	3
T-NUR	204	Physical and Mental Health Nursing II	5	15	10
			8	15	13

EIGHTH QUARTER

		*Elective	3	0	3
T-NUR	206	Seminar in Nursing	3	24	11
			6	24	14

*To be approved by Registered Nursing Department.

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours of credit for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

ENG 101 English Composition I (3-0) 3

Intensive study of and practice in effective expository writing, emphasizing principles of grammar, punctuation and organization.

BIO 110 Human Anatomy and Physiology I (4-2) 5

A study of the structure and normal functions of the human body and its systems with emphasis upon the interrelated functions of various parts and systematic processes in the development of basic physiological principles.

PSY 201 General Psychology (5-0) 5

A survey of psychology, including organic structure, perception, motivation, learning, principles of behavior, measurements and theories of psychology.

T-NUR 101 Introduction to Medical-Surgical Nursing (4-6) 6

The problem solving method is used as an approach to nursing care. The course begins with the student's understanding of man's basic needs and the problems which arise when these needs are not met. Scientific principles and applications from the areas of nursing, pharmacology and nutrition are stressed. Through knowledge, technical skills and interpersonal relationship techniques, the student is able to provide patient-centered nursing care. P. R. Admission to the Associate Degree Program in Nursing.

ENG 102 English Composition II (3-0) 3

Continuation of the study of composition, emphasizing interpretation and evaluation of expository, narrative and creative writing. P. R. ENG. 101.

- BIO 111 Human Anatomy and Physiology II** (4-2) 5
A continuation of BIO 110. P. R. BIO 110.
- PSY 202 Human Development** (5-0) 5
Development of the normal child and adolescent, with consideration of the social, biological and cultural influences upon growth. P. R. PSY 201.
- T-NUR 102 Medical-Surgical Nursing I** (3-9) 6
The introductory portion of this course is designed to increase the student's ability to recognize patients' reactions to illness, to observe basic processes of illness and to plan individualized nursing care. A study of the nursing needs of adolescents based upon the developmental tasks and major health problems of this group is then considered. P. R. T-NUR 101; C. R. PSY 202.
- ENG 103 English Composition III** (3-0) 3
Further study in composition, emphasizing the research paper. P. R. ENG 102.
- BIO 150 General Bacteriology (Microbiology)** (4-2) 5
An introductory course in general bacteriology with a survey of microscopical plant and animal forms with emphasis upon the morphology, physiology and ecology of bacteria. The nature and activities of common microorganisms of humans, soil, water, food and milk. P. R. BIO 101.
- SOC 201 Introduction to Sociology** (5-0) 5
An analysis of the society and culture dealing with social organization, control institutions, stratification and social change.
- T-NUR 103 Medical-Surgical Nursing II** (3-9) 6
A study of the nursing needs of young and middle aged adults based upon the developmental tasks and major health problems of these age groups. Concepts of group dynamics and their application to planning nursing care are included. P. R. T NUR 102, PSY 202.
- T-CHM 150 Chemistry** (4-2) 5
Basic chemistry is introduced briefly in order to aid the student in understanding the organic and biological phases which follow. Emphasis is placed upon those areas of chemistry involved in normal and abnormal cell functions. Various chemicals of the body are studied as they relate to specific physiological processes. Mathematical computations are limited to those necessary to understand laboratory reports and develop a concept of the quantitative nature of chemistry.
- T-NUR 201 Maternal and Child Health Nursing I** (5-15) 10
A study of maternal and child care based on understanding of the reproductive and developmental cycles of mothers and children. Emphasis is placed on the concepts of family-centered care and on health teaching. Knowledge of the normal maternity cycle and growth and development of the child from infancy through pre-adolescence is used as a basis for recognition of the deviations from normal which may be produced by illness and hospitalization and for planning nursing care. P. R. T-NUR 103; C. R. SOC 203.
- SOC 203 Marriage and the Family** (5-0) 5
Study of the American family with attention given to courtship, marriage, family relationships and interdependencies, and social or cultural stresses emerging from contemporary family life. P. R. SOC 201 or consent.
- T-NUR 202 Maternal and Child Health Nursing II** (5-15) 10
A continuation of T-NUR 201. P. R. T-NUR 201.
- T-NUR 203 Physical and Mental Health Nursing I** (5-15) 10
A study of the nursing needs of patients who have behavioral disorders due to mental or physical illness. Concepts of interpersonal relationships and mental health and their application in planning nursing care are included. P. R. T-NUR 103.
- SPH 101 Oral Communication** (3-0) 3
Principles of effective communication with emphasis upon self-expression in

conversation, interviewing, understanding, listening, questioning, conferences and vocabulary. P. R. T-ENG 101 or ENG 101.

T-NUR 204 Physical and Mental Health Nursing II (5-15) 10

A study of the nursing needs of aging adults based upon the developmental tasks and major health problems of this age group. Concepts of progressive patient care and their application to planning nursing care are included. P. R. T-NUR 103.

T-NUR 205 Trends in Nursing (3-0) 3

A study of the major trends in modern nursing and their effects on nursing service and nursing education. Emphasis is placed on the responsibilities of the nurse as a member of the health team and as a citizen in the community.

T-NUR 206 Seminar in Nursing (3-24) 11

A study in depth of those aspects of nursing which have been identified as being fundamental for providing patient-centered nursing care. Emphasis will be placed on group study and analysis of patient-care problems. P. R. T-NUR 201, T-NUR 202, T-NUR 203, T-NUR 204, T-NUR 205.

BUSINESS CURRICULA

Accounting
Business Administration
Traffic and Transportation

ACCOUNTING

Accounting is often called "the language of business." It is the language employed to communicate financial information. The accounting profession is important to the complete spectrum of business fields, ranging from governmental to small private businesses. Accountants are found in such forms of business operation as the sole proprietorship, partnership and corporation. Positions are available to accountants in general accounting, auditing, payroll accounting, credit and other specialized fields.

DESCRIPTION OF CURRICULUM

The Accounting curriculum is designed to provide sound academic training in the accumulation and maintenance of accounting. The student learns to perform such duties as: maintaining journals and ledgers, preparing financial statements, making special reports and analyses, preparing cost data and summarizing tax information. The degree Associate in Applied Science in Accounting will be awarded upon successful completion of this curriculum.

SUGGESTED SEQUENCE OF REQUIRED COURSES FOR ACCOUNTING

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIRST QUARTER					
T-ENG	100	Speed Reading	2	0	2
T-ENG	101	Communications I	3	0	3
T-BUS	102	Elementary Typewriting I* (or T-BUS 109, Business Machines)	2	3	3
T-MAT	110	Business Mathematics I	3	0	3
T-BUS	101	Introduction to Business	3	0	3
BUS	120	Accounting I	5	2	6
			18	5	20
SECOND QUARTER					
T-ENG	102	Communications II	3	0	3
T-BUS	115	Business Law I	3	0	3
BUS	121	Accounting II	5	2	6
T-MAT	111	Business Mathematics II	3	0	3
ECO	201	Economics I	3	0	3
			17	2	18
THIRD QUARTER					
T-ENG	103	Communications III	3	0	3
T-BUS	116	Business Law II	3	0	3
ECO	202	Economics II	3	0	3
T-BUS	109	Business Machines (or Elective**)	2	2	3
T-BUS	222	Intermediate Accounting I	5	2	6
			16	4	18

Course Title

			Hours per Week		Quarter
			Class	Lab	Hours Credit
FOURTH QUARTER					
SPH	101	Oral Communication	3	0	3
T-BUS	247	Business Insurance (or Elective**)	3	0	3
T-BUS	123	Business Finance I	3	0	3
T-BUS	223	Intermediate Accounting II	5	2	6
T-BUS	229	Income Tax Accounting (formerly taxes)	3	2	4
			17	4	19
FIFTH QUARTER					
T-ENG	206	Business Communication	3	0	3
T-BUS	235	Business Management	4	0	4
T-BUS	124	Business Finance II	3	0	3
T-BUS	227	Advanced Accounting	3	2	4
T-EDP	104	Introduction to Electronic Data Processing	3	2	4
			16	4	18
SIXTH QUARTER					
T-BUS	217	Legal Environment of Business (or Elective**)	3	0	3
T-BUS	269	Auditing (or Elective**)	3	2	4
T-PSY	206	Applied Psychology	3	0	3
T-BUS	266	Budget and Record Keeping	3	0	3
T-BUS	225	Cost Accounting	3	2	4
			15	4	17

*T-BUS 102 is not required of students who have had two years of high school typing and who can pass a proficiency examination.

**To be approved by Accounting Department.



BUSINESS ADMINISTRATION

The opportunities in business are increasing in North Carolina. With the growth of population and industrial development in this state, business is becoming more competitive. Businesses are turning to such modern techniques as automation and electronic data processing in order to remain competitive. The best opportunities in business will be filled by students with specialized education in business administration. The graduate of the Business Administration curriculum may enter a variety of career opportunities in such businesses as: advertising, banking, credit, finance, retailing, wholesaling, insurance, transportation, communications, manufacturing and the hotel, tourist and travel industry. The beginning duties and responsibilities of this graduate might include: making up and filing reports, tabulating and posting data, billing, checking calculations, adjusting complaints, operating various office machines and assisting managers in supervising.

DESCRIPTION OF CURRICULUM

The Business Administration curriculum is designed to prepare the student for employment in several occupations common to business. Training is aimed at preparing the student in many phases of administrative work that are encountered in the average business.

The specific objectives of the Business Administration curriculum are to develop the following competencies: (1) understanding of the principles of organization and management in business control; (2) understanding our economy through study and analysis of the role of marketing, wholesaling, retailing, and manufacturing; (3) knowledge in specific elements of accounting, finance and business law; (4) understanding and skill in effective communication for business; (5) knowledge of human relations as they apply to successful business operations in a rapidly expanding economy. With approval of a faculty advisor, students through their choice of fifth and sixth quarter electives may concentrate their studies either in General Business, Marketing, or Office Management. The degree Associate in Applied Science in Business Administration is awarded upon completion of this curriculum.

SUGGESTED SEQUENCE OF REQUIRED COURSES FOR BUSINESS ADMINISTRATION

Course Title		Hours per Week		Quarter	
		Class	Lab	Hours Credit	
FIRST QUARTER					
T-ENG	100	Speed Reading	2	0	2
T-ENG	101	Communications I	3	0	3
T-BUS	102	Elementary Typewriting I* (or T-BUS 109, Business Machines)	2	3	3
T-MAT	110	Business Mathematics I	3	0	3
T-BUS	101	Introduction to Business	3	0	3
BUS	120	Accounting I	5	2	6
		18	5	20	

Course Title

SECOND QUARTER

			Hours per Week		Quarter
			Class	Lab	Hours Credit
T-ENG	102	Communications II	3	0	3
T-BUS	115	Business Law I	3	0	3
BUS	121	Accounting II (or Electives**)	5	2	6
T-MAT	111	Business Mathematics II	3	0	3
ECO	201	Economics I	3	0	3
			17	2	18

THIRD QUARTER

T-ENG	103	Communications III	3	0	3
T-BUS	116	Business Law II	3	0	3
T-BUS	233	Personnel Management	3	0	3
T-BUS	232	Sales Development	3	0	3
ECO	202	Economics II	3	0	3
T-EDP	104	Introduction to Electronic Data Processing	3	2	4
			18	2	19

FOURTH QUARTER

SPH	101	Oral Communication	3	0	3
HIS	153	American History III	3	0	3
T-BUS	123	Business Finance I	3	0	3
T-BUS	239	Marketing	3	0	3
T-PSY	206	Applied Psychology	3	0	3
T-BUS	271	Office Management	3	0	3
			18	0	18

FIFTH QUARTER

T-ENG	206	Business Communication	3	0	3
T-BUS	235	Business Management	4	0	4
T-BUS	124	Business Finance II (or Elective**)	3	0	3
T-BUS	109	Business Machines (or Elective **)	2	2	3
T-BUS	237	Wholesaling (or Elective **)	3	0	3
T-EDP	219	Systems and Procedures	3	0	3
			18	2	19

SIXTH QUARTER

T-BUS	219	Credit Procedures and Problems (or Elective **)	3	0	3
T-BUS	272	Supervision	3	0	3
T-EDP	220	Applied Business Systems	3	0	3
T-BUS	217	Legal Environment of Business	3	0	3
T-BUS	245	Retailing (or Elective **)	3	0	3
T-BUS	266	Budget and Record Keeping (or Elective **)	3	0	3
			18	0	18

*T-BUS 102 is not required of students who have had two years of high school typing and who can pass a proficiency examination.

**To be approved by Business Administration Department.

- T-BUS 227 Advanced Accounting** (3-2) 4
Advanced accounting theory and principles as applied to special accounting problems, bankruptcy proceedings, estates, trusts and parent and subsidiary accounting. P. R. T-BUS 223.
- ***T-EDP 104 Introduction to Electronic Data Processing** (3-2) 4
The fundamental concepts and principles of data processing systems are presented as an aid in developing the basic knowledge prerequisite for a future detailed study of computer systems and programming. This course provides a general knowledge of computer systems, data processing terminology, computer applications, flow charting, types of computer instructions and programming in basic language.
- *T-BUS 219 Credit Procedures and Problems** (3-0) 3
The management of a credit department based on principles and practices in the extension of credit and collection of accounts. Federal and state laws pertaining to credit extension and collection are included.
- T-BUS 217 Legal Environment of Business** (3-0) 3
A study of the powers, policies, methods and procedures used by federal and state administrative agencies in promoting and regulating business enterprises. The course includes a consideration of the constitutional and statutory limitations on these commissions and judicial review of administrative action. P. R. T-BUS 116.
- T-BUS 269 Auditing** (3-2) 4
Theory and practices of auditing are emphasized, including standards, procedures and rules of professional conduct. Emphasis is placed on detailed audits, internal auditing and internal control. P. R. Advanced Standing.
- T-PSY 206 Applied Psychology** (3-0) 3
A study of the principles of psychology which will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings, and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
- T-BUS 266 Budget and Record Keeping** (3-0) 3
The basic principles, methods and procedures for projection, preparation and operation of business budgets. Special attention is given to the involvement of individual departments and the role they play. Emphasis is placed on the necessity for accurate record keeping in order to evaluate the effectiveness of budget planning. P. R. BUS 120.
- T-BUS 225 Cost Accounting** (3-2) 4
A detailed study of systems of cost accounting including process, job orders and standard costs. Usefulness of data to management is stressed. P. R. T-BUS 227.
- *T-BUS 233 Personnel Management** (3-0) 3
An introduction to the operation of a personnel department. Emphasis is placed on the scientific management of manpower through personnel policies pertaining to recruitment, selection, placement, training, promotion, health and safety and employee services.
- T-BUS 232 Sales Development** (3-0) 3
An analysis of the principles and techniques of effective selling. The qualifications, training and obligations of the salesman are emphasized through sales demonstrations and interviews.
- HIS 153 American History III** (3-0) 3
The conclusion of the survey of the American development from 1900 to the present.

*Accounting Elective.

***Traffic and Transportation Elective.

- ***T-BUS 239 Marketing** (3-0) 3
An introduction to the overall system of distributing goods and services. The course deals with marketing functions and policies, product line, brands, channels of distribution, advertising and price policies.
- *T-BUS 271 Office Management** (3-0) 3
This course presents the fundamental principles and successful practices used in getting office work accomplished. Case problems are used in making effective solutions to office management problems. (To be taken during 5th or 6th quarter only.)
- T-BUS 237 Wholesaling** (3-0) 3
A comprehensive analysis of the wholesaling function emphasizing the principles and techniques employed by today's wholesale managers. The role of wholesaling in our distribution system and its relation to production and retailing are thoroughly analyzed. P. R. T-BUS 239.
- *T-EDP 219 Systems and Procedures** (3-0) 3
An introductory course in the principles of management systems applied to information data flows. Particular attention is given to forms flow charting, forms analysis and design and systems analysis. P. R. Approval of Department.
- T-BUS 272 Supervision** (3-0) 3
A study of the critically important and practical concepts of modern-day, first-line supervision. Emphasis is placed on the supervisor's major functions, his face-to-face relations with others, and his intellectual, emotional and ethical development.
- T-EDP 220 Applied Business Systems** (3-0) 3
A continuation of management systems applied to information data flow. Practical work in systems flow charting and analysis is emphasized. The conduction of feasibility studies, the preparation and maintenance of standard practice, policy, and organization manuals, and computer applications are stressed. P. R. T-EDP 219.
- T-BUS 245 Retailing** (3-0) 3
A study of the role of retailing in our distribution system. Topics include the development of present retail practices, functions performed, principles governing effective operation, and managerial problems resulting from current economic and social trends. P. R. T-BUS 239.
- T-BUS 190 Motor Carrier Rates** (3-0) 3
This is a problem approach to the study of motor carrier rates and charges. Emphasis is placed on tariffs published by the Southern Motor Carriers Rate Conference and rules of the governing classifications.
- T-BUS 191 Common Carrier Rates** (3-0) 3
Advanced tariff problems of SMCRC and other motor-carrier rate bureaus are considered. A study is made of rail rates and rail trailer-on-flat-car rates. Problems are also discussed. P. R. T-BUS 190.
- T-BUS 285 ICC Law I** (3-0) 3
A thorough analysis is made of the Interstate Commerce Act. The history of this act and related acts affecting interstate commerce are studied.
- T-BUS 286 ICC Law II** (3-0) 3
A detailed study of the procedure of appearing before the Interstate Commerce Commission. P. R. T-BUS 285.
- T-BUS 296 Motor Carriers: Organization and Operation** (3-0) 3
A study of the development of the motor carrier industry, classification of highway users, types of motor carriers, types of operations and services performed; state and federal safety regulations, highway policies and "barriers"; organization and operation of a motor carrier; terminals, terminal facilities, types of equipment and costs, insurance, financing and labor relations.

*Accounting Elective.

***Traffic and Transportation Elective.

T-BUS 287 ICC Law III (3-0) 3
Presentation of cases before the Interstate Commerce Commission. P. R. T-BUS 286.

T-BUS 295 Traffic Claims (3-0) 3
Rights and liabilities of carriers, consignors, and consignees; claim procedures, settlements, and prevention of claims.

T-BUS 297 Motor Carriers: Problems and Practices (3-0) 3
An analysis of motor carrier administration including organization, management principles, and policy formulation for direction and control. Case problems are studied. P. R. T-BUS 296.

****T-ECO 106 Economics of Transportation I** (3-0) 3
An introductory course emphasizing our transport development from earliest times to 1925. Water transportation, toll roads and railroads are analyzed together with the economic effects of early government regulation.

T-BUS 178 Traffic Management (3-0) 3
Management of the flow of goods in commerce. The organization and duties of a traffic department, study of services offered by common carriers, freight classifications, tariff and rate formulation, shipping documents, routing and consolidations are studied.

T-ECO 107 Economics of Transportation II (3-0) 3
A continuation of T-ECO 106, covering the economics of our present complex system of air, motor, rail, water and pipeline transportation. Emphasis is given to cost of service factors, and the advantages and disadvantages of each mode. A final tie-in is made to present conditions with analysis of proposals for coordination and integration of our different modes of transportation. P. R. T-ECO 106.

T-BUS 179 Advanced Traffic Management (3-0) 3
A continuation of T-BUS 178, stressing analysis of carriers' special services, transit privileges, equipment utilization, management of private transportation, exports and imports, warehousing, procedures before classification and rate committees, technical tariff interpretations, contracts and cargo insurance. P. R. T-BUS 178.

T-BUS 298 Materials Handling (3-0) 3
A study of basic containers and equipment, packaging and material protection, standardization, warehousing, traffic and shipping. The various analytical approaches used in formulating materials-handling improvements in existing or proposed operations are covered.

ELECTIVES*

T-BUS 258 Business Statistics (3-0) 3
A study of the principal statistical methods and their application to business operations. The course deals with collection of statistical data, construction and interpretation of statistical tables and charts. Attention is given to fundamental statistical concepts and techniques. P. R. T-MAT 111.

T-BUS 238 Purchasing (3-0) 3
The organization of industrial and commercial purchasing, methods of procurement, purchasing policies, sources of supply and legal aspects. P. R. T-BUS 239.

ECO 203 Economics III (3-0) 3
Distribution of income; factors of production; wages and collective bargaining; interest and capital; profits and incentives, international payments, trade and gold flow; current economic problems. P. R. ECO 201.

T-BUS 255 Financial Statement Analysis (3-0) 3
A study based on how to read, analyze, and interpret financial statements of industrial and commercial business enterprises. Although it is assumed that the student knows fundamental accounting principles, some of the basic concepts are reviewed. Emphasis is placed on presenting and discussing methods and principles of analysis and the process of interpreting financial and operating reports.

**Business Administration Elective.

*To be approved by the Department.

T-BUS 254 Job Analysis and Evaluation**(3-0) 3**

Utilization of time standards in design, installation, and operation of financial incentive plans. Grading, ranking, factor comparison and point systems of job evaluation in determining equitable rates based on job content.

T-MEC 213 Production Planning**(3-0) 3**

Day-to-day plant direction including forecasting, product planning and control, scheduling, dispatching, routing and inventory control. Case histories are discussed in the classroom and courses of corrective action are developed.

T-CAT 101 Advertising Principles**(3-0) 3**

A comprehensive survey of the history and development of advertising and a discussion of its economic and social values. An introduction to advertising media and current publications in the field.

T-BUS 248 International Marketing**(3-0) 3**

Covers the full range of activities, problems and decision-making areas which challenge the firm engaged in or embarking upon importing or exporting its products in foreign countries.

T-BUS 249 Sales Management**(3-0) 3**

The planning, organizing and controlling of sales operations. Emphasis is placed on the sales manager's functions and problems in manufacturing. P. R. Fifth Quarter Status.

T-BUS 234 Commodities of Commerce**(3-0) 3**

A study of economic geography of the principal commodities of commerce. The prime sources of raw materials and finished goods under present conditions are emphasized and an analysis of major changes as projected by industrial and commercial development is made.

CHEMICAL TECHNOLOGY

The chemical industry of the southeastern United States involves (1) basic research, (2) development of chemical processes through pilot plant investigations, (3) chemical manufacturing, (4) sales and services and (5) laboratory analyses and testing of materials.

Leading products are in the fields of textiles, paper, fertilizer, adhesives, protective coatings, plastics and rubber.

Chemical technicians are much in demand for laboratory testing and pilot plant studies throughout the industry.

DESCRIPTION OF CURRICULUM

The Chemical Technology curriculum is an intensive six-quarter program of theoretical and applied chemistry. It is designed to:

1. Develop the student's knowledge and understanding of the fundamental principles and concepts of chemistry;
2. Develop laboratory manipulative skills and techniques as needed on the job;
3. Familiarize the student with commercial manufacturing process problems and the part that the technician must play in the prevention and/or solution of these problems.

A total of ten courses are included to give the student ample training in general, organic, physical and analytical chemistry. Emphasis is placed upon development of laboratory skills. The use of such modern instruments as the colorimeter, infrared spectrophotometer and gas chromatograph is taught in the final two quarters. Graduates in this curriculum receive the degree Associate in Applied Science in Chemical Technology.

CHEMICAL TECHNOLOGY

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title		Hours per Week		Quarter
		Class	Lab	Hours Credit
FIRST QUARTER				
T-ENG	101 Communications I	3	0	3
T-MAT	101 Technical Mathematics I	5	0	5
T-PHY	101 Physics I: Properties of Matter	3	2	4
CHM	General Chemistry I	4	3	5
T-ENG	100 Speed Reading	2	0	2
		17	5	19
SECOND QUARTER				
T-ENG	102 Communications II	3	0	3
T-MAT	102 Technical Mathematics II	5	0	5
T-PHY	102 Physics II: Work, Energy, Power	3	2	4
CHM	102 General Chemistry II	4	3	5
DFT	101 Technical Drafting I	2	4	3
		17	9	20
THIRD QUARTER				
T-ENG	103 Communications III	3	0	3
T-MAT	103 Technical Mathematics III	5	0	5
T-PHY	103 Physics III: Electricity	3	2	4
CHM	103 General Chemistry III and Elementary Analysis	3	4	5
		14	6	17

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FOURTH QUARTER					
SPH	101	Oral Communication	3	0	3
CHM	201	Quantitative Chemical Analysis	3	6	6
T-CHM	227	Physical Chemistry	3	2	4
T-PHY	104	Physics IV: Light and Sound	3	2	4
		Elective*	3	0	3
			15	10	20
FIFTH QUARTER					
T-PSY	206	Applied Psychology	3	0	3
CHM	210	Organic Chemistry I	3	6	6
T-CHM	241	Industrial Chemical Analysis I	3	9	6
T-CHM	251	Independent Laboratory Study	0	3	1
			9	18	16
SIXTH QUARTER					
ECO	201	Economics I	3	0	3
CHM	211	Organic Chemistry II	3	6	6
T-CHM	242	Industrial Chemical Analysis II	3	12	7
			9	18	16

*To be approved by Chemical Technology Department.

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

T-ENG 101 Communications I (3-0) 3

This course is designed to aid the student in the improvement of writing and self-expression with emphasis on practical application of grammar and sentence structure. Vocabulary building, as well as a functional approach to writing, is stressed by use of projected materials with emphasis on the mechanics of construction in all areas of good English.

T-ENG 100 Speed Reading (2-0) 2

The approach includes a concentrated effort to improve the student's ability to comprehend that which he reads with greater rapidity and accurateness. Special machines are used to broaden the span of sentence recognition, to increase eye coordination, and to improve the common faults of a slow-reader.

T-MAT 101 Technical Mathematics I (5-0) 5

The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinate system and fundamental trigonometric concepts and operations are introduced. C. R. High School credit in geometry or MAT 033.

T-PHY 101 Physics I: Properties of Matter (3-2) 4

A fundamental course covering several basic principles of physics. The divisions included are solids and their characteristics, liquids in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these topics are part of this course.

DFT 101 Technical Drafting I (2-4) 3

An introduction to drafting and design practices and principles. The attainment of the basic skills and techniques of drafting including use of drafting equipment, lettering, freehand, orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning and noting. Methods of reproducing, filing and storing drawings are studied and the student is introduced to "working drawings".

- CHM 101 General Chemistry I** (4-3) 5
A study of the fundamental postulates and laws of chemistry with emphasis upon the relationship of atomic structure to physical and chemical properties of the elements.
- T-ENG 102 Communications II** (3-0) 3
Designed to aid the student in continuing improvement of writing and self-expression in business and composition format. Emphasis is placed on the sentence, paragraph, and whole composition. This course is intended to stimulate students in applying the basic principles of English. P. R. T-ENG 101.
- T-MAT 102 Technical Mathematics II** (5-0) 5
A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions. P. R. T-MAT 101.
- T-PHY 102 Physics II: Work, Energy, Power** (3-2) 4
The major areas covered in this course are work, energy, and power. Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurement and their applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas. P. R. T-PHY 101, T-MAT 101.
- CHM 102 General Chemistry II** (4-3) 5
Continuation of CHM 101 with emphasis on chemical equilibria, chemical kinetics, solution stoichiometry and electrochemistry. P. R. CHM 101.
- T-ENG 103 Communications III** (3-0) 3
The fundamental concepts of English are utilized as a background for the organization and techniques of modern report and technical report writing. This course offers exercises in developing typical reports, letters, memoranda and resumes. Writing techniques of structure and syntax are emphasized. At the end of the term each student is required to prepare a report pertaining to his chosen curriculum. P. R. T-ENG 102.
- T-MAT 103 Technical Mathematics III** (5-0) 5
The fundamental concepts of analytic geometry and differential and integral calculus are introduced. Topics included are graphing techniques, geometric and algebraic interpretation of the derivative, differentials, rate of change, and the integral and basic integration techniques. P. R. T-MAT 102.
- T-PHY 103 Physics III: Electricity** (3-2) 4
Basic theories of electricity, types of electricity, methods of producing, transmitting and transforming electricity. Electron theory, electricity by chemical action, electricity by friction, electricity by magnetism, induction, voltage, amperage, resistance, horsepower, wattage and transformers are major parts of the course. P. R. T-PHY 101, T-MAT 102.
- CHM 103 General Chemistry III and Elementary Analysis** (3-4) 5
Continuation of CHM 102 including qualitative analysis with emphasis upon ionic equilibria and relating chemical properties to atomic and molecular structure. Some quantitative analysis with and without instruments will be included. P. R. CHM 102.
- SPH 101 Oral Communication** (3-0) 3
Principles of effective communication with emphasis upon self-expression in conversation, interviewing, understanding, listening, questioning, conferences and vocabulary. P. R. T-ENG 101.
- CHM 201 Quantitative Chemical Analysis** (3-6) 6
The theory of quantitative volumetric and gravimetric determinations, with emphasis upon the principles of precipitation, neutralization, oxidation and reduction applied to unknowns. Some modern instrumental methods are included. P. R. CHM 103 or consent.

- T-CHM 227 Physical Chemistry** (3-2) 4
Atomic theory, states of matter, chemical thermodynamics, molecular properties of solutions, equilibria, phase rule, electrochemistry, kinetics, surface chemistry and photochemistry constitute major areas of study. P. R. CHM 102.
- T-PHY 104 Physics IV: Light and Sound** (3-2) 4
A study of sound and wave motion and its technical applications to industry and related fields. Topics include illumination and principles of optical instruments. Practical aspects are emphasized. P. R. T-MAT 102, T-PHY 101.
- T-PSY 206 Applied Psychology** (3-0) 3
A study of the principles of psychology which will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
- CHM 210 Organic Chemistry I** (3-6) 6
A systematic study of the basic theories, principles and techniques of organic chemistry and their application to reactions of aliphatic and aromatic compounds and natural products. Laboratory work in purification, characterization and synthesis of organic compounds. P. R. CHM 103 or consent.
- T-CHM 241 Industrial Chemical Analysis I** (3-9) 6
Various methods of chromatography are used in industrial applications. Emphasis is placed upon the use of the gas chromatograph. Ion exchange is also studied. P. R. CHM 210, T-CHM 227.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organizations; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- CHM 211 Organic Chemistry II** (3-6) 6
A continuation of CHM 210. P. R. CHM 210.
- T-CHM 242 Industrial Chemical Analysis II** (3-12) 7
Optical methods of analysis are emphasized. Laboratory work centers about the use of the colorimeter and the infrared spectrophotometer. P. R. T-CHM 241.
- T-CHM 251 Independent Laboratory Study** (0-3) 1
Individual study and research in the laboratory. Topics will be assigned by the department.

COMMERCIAL ART AND ADVERTISING DESIGN

Artists are needed by business and industry in ever-increasing numbers. Advertising agencies, design studios, exhibit and display businesses, department stores, industrial organizations and publishing houses are some of the many areas where the skills of the artist and designer are utilized. Many trained individuals choose to "free-lance" or perform services for customers on self-made contracts and schedules. The field of Commercial Art and Advertising design is constantly growing and offers the successful artist excellent rewards in employment through creative achievement. Areas of employment include advertising layout and design, lettering and sign painting, displays and exhibits, animation and cartooning, technical illustration, book and magazine illustration, fashion illustration, painting, sketching and textile design.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College is designed to offer the student sound, well-rounded training. Special attention is given to basic art and design principles, the development of original thinking and actions based upon contemporary needs in this field. Through individual counseling, lectures, laboratories and field trips, each student is encouraged to pursue high standards of excellence in preparation for employment. Graduates receive the degree Associate in Applied Science in Commercial Art and Advertising Design.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per Week	Quarter	
			Class	Lab.	Hours Credit
FIRST QUARTER					
DFT	101	Technical Drafting I	2	4	3
T-ENG	101	Communications I	3	0	3
T-CAT	101	Advertising Principles	3	0	3
T-CAT	105	Life Study I	1	3	2
T-CAT	121	Commercial Art and Advertising Design I	3	9	6
T-ENG	100	Speed Reading	2	0	2
			14	16	19
SECOND QUARTER					
T-ENG	102	Communications II	3	0	3
T-DFT	102	Technical Drafting II	2	4	3
T-MAT	110	Business Mathematics I	3	0	3
T-CAT	106	Life Study II	0	6	2
T-CAT	122	Commercial Art and Advertising Design II	3	9	6
			11	19	17
THIRD QUARTER					
T-ENG	103	Communications III	3	0	3
T-CAT	116	Photography I	2	6	4
T-CAT	123	Commercial Art and Advertising Design III	3	9	6
T-MAT	111	Business Mathematics II	3	0	3
		Elective*	3	0	3
			14	15	19

FOURTH QUARTER

SPH	101	Oral Communication	3	0	3
T-CAT	205	Advertising Copywriting	3	0	3
T-CAT	212	Advertising Illustration I	1	3	2
T-CAT	224	Commercial Art and Advertising Design IV	3	9	6
T-CAT	110	Industrial Illustration	2	6	4
			12	18	18

FIFTH QUARTER

T-PSY	206	Applied Psychology	3	0	3
T-CAT	213	Advertising Illustration II	1	3	2
T-CAT	217	Photography II	2	6	4
T-CAT	225	Commercial Art and Advertising Design V	3	9	6
		Elective*	3	0	3
			12	18	18

SIXTH QUARTER

ECO	201	Economics I	3	0	3
T-CAT	214	Advertising Illustration III	1	3	2
T-CAT	226	Commercial Art and Advertising Design VI	3	9	6
T-CAT	235	Advertising Art Direction	5	0	5
		Elective*	3	0	3
			15	12	19

*To be approved by Commercial Art Department

COURSE DESCRIPTION

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours of credit for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

DFT 101 Technical Drafting I (2-4) 3

An introduction to drafting and design practices and principles. The attainment of the basic skills and techniques of drafting including use of drafting equipment, lettering, freehand, orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning and noting. Methods of reproducing, filing, and storing drawings are studied and the student is introduced to "working drawings".

T-ENG 101 Communications I (3-2) 3

This course is designed to aid the student in the improvement of writing and self-expression with emphasis on practical application of grammar and sentence structure. Vocabulary building, as well as a functional approach to writing, is stressed by use of projected materials with emphasis on the mechanics of construction in all areas of good English.

T-CAT 101 Advertising Principles (3-0) 3

A comprehensive survey of the history and development of advertising and a discussion of its economic and social values. An introduction to advertising media and current publications in the field.

T-CAT 105 Life Study I (1-3) 2

A study of body structure with emphasis on the skeletal and muscular systems, movement and the aging process. Graphical interpretation and response to live models with emphasis on proportioning, masses and movement.

T-CAT 121 Commercial Art and Advertising Design I (3-9) 6

An introduction to drawing and basic design fundamentals and principles. Emphasis is placed on line, two- and three-dimensional shapes, letter indication, sketching, perspective, light and shade, equipment and materials of the art and design profession.

T-ENG 100 Speed Reading (2-0) 2

The approach includes a concentrated effort to improve the student's ability to comprehend that which he reads with greater rapidity and accurateness. Special machines are used to broaden the span of sentence recognition, to increase eye coordination, and to improve the common faults of a slow reader.

- T-DFT 102 Technical Drafting II** (2-4) 3
The application of orthographic projection principles to the more complex drafting problems, primary and secondary auxiliary views, simple and successive revolutions, and sections and conventions is studied. The introduction of the graphical analysis of space problems involving points, lines, planes and a combination of these elements. Precision and limit dimensioning practices. P. R. DFT 101.
- T-MAT 110 Business Mathematics I** (3-0) 3
A study of fundamental processes: addition, subtraction, multiplication and division of whole numbers and common and decimal fractions. The manipulation and application of per cent, essentials of algebraic operations and per cents as applied to the income statement are also studied. P. R. Satisfactory score on entrance math test.
- T-CAT 106 Life Study II** (0-6) 2
Graphical interpretation and response to the live model covering topics such as proportioning, the aging process, character, expression and draping the model. This course deals with building of the figure and such ingredients as placement, balance, rhythm, turning, twisting, wedging, distribution of masses, perspective of form, planes of forms, abdominal arch, hair forms and variations. P. R. T-CAT 105.
- T-CAT 122 Commercial Art and Advertising Design II** (3-9) 6
Advanced material in drawing, basic design, lettering equipment and materials. Emphasis is placed on two-and three-dimensional form, perspective, sketching, rough and finished lettering. Laboratory work consists of assigned graphical problems with critique and discussion by class participation. P. R. T-CAT 121.
- T-ENG 103 Communications III** (3-0) 3
The fundamental concepts of English are utilized as a background for the organization and techniques of modern report and technical report writing. This course offers exercises in developing typical reports, letters, memoranda and resumes. Writing techniques of structure and syntax are emphasized. At the end of the term each student is required to prepare a report pertaining to his chosen curriculum. P. R. T-ENG 102.
- T-CAT 116 Photography I** (2-6) 4
An introduction to the field of photography, photographic equipment and materials. A study of the fundamental techniques of the camera and its expressive possibilities in relation to the field of design and visual communications. Assigned camera projects, darkroom procedures and equipment.
- T-CAT 123 Commercial Art and Advertising Design III** (3-9) 6
Introduction to layout and design for printing. Mechanics of layout, properties of type and basic reproductive processes. Laboratory exercises consist of preparation of comprehensive art form for presentation on magazine covers, trademarks, book covers, textile designs, furniture designs and two-and three-dimensional display figures. Assigned graphical problems with critique and discussion by class members. P. R. T-CAT 122, T-DFT 102.
- T-MAT 111 Business Mathematics II** (3-0) 3
A continuation of mathematics applied to business. An introduction to statistical methods, simple and compound interest, discounts, debts extinction and expense distribution calculations. P. R. T-MAT 110.
- SPH 101 Oral Communication** (3-0) 3
Principles of effective communication with emphasis upon self-expression in conversation, interviewing, understanding, listening, questioning, conferences and vocabulary. P. R. T-ENG 101.
- T-CAT 205 Advertising Copywriting** (3-0) 3
A study of the techniques used in creating effective advertising copy for various types of media. The purposes and duties of the copywriter and legal problems encountered in copywriting are emphasized. Theory and practice are given in writing copy for the various media such as retail and fashion copy, mail order, direct mail, business publications, radio and television. P. R. T-ENG 103.

- T-CAT 212 Advertising Illustration I** (1-3) 2
An introduction to advertising illustration through problems in shape, space and light analysis. Laboratory exercises will explore the use of various mediums. P. R. T-CAT 123.
- T-CAT 224 Commercial Art and Advertising Design IV** (3-9) 6
An introduction to cartooning, intermediate layout and design techniques for printing. Laboratory assigned graphical problems cover such topics as color separation, halftones and materials for the development of posters, show cards, banners, hand-lettered documents, brochures and folders. P. R. T-CAT 123.
- T-CAT 110 Industrial Illustration** (2-6) 4
A comprehensive approach to the tools, equipment, materials and utilization of the illustration. Laboratory exercises and problems covering such topics as product illustrations, production illustrations, renderings, preparation of visual charts, graphs and composites. P. R. T-DFT 102.
- T-PSY 206 Applied Psychology** (3-0) 3
A study of the principles of psychology which will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
- T-CAT 213 Advertising Illustration II** (1-3) 2
Advanced work and assigned problems in advertising illustration. The student is urged to explore a variety of mediums. P. R. T-CAT 212.
- T-CAT 217 Photography II** (2-6) 4
Advanced photographic techniques and materials. Participation in studio and laboratory procedures illustrating the various applications and creative possibilities of photography in advertising. P. R. T-CAT 116.
- T-CAT 225 Commercial Art and Advertising Design V** (3-9) 6
Advanced problems in layout and design techniques for printing, illustration, cartooning, display design and lettering. Laboratory and graphic problems dealing with magazine and book illustrations, the fashion figure, outdoor sign writing, displays and exhibits for business and industry. P. R. T-CAT 224.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organization; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- T-CAT 214 Advertising Illustration III** (1-3) 2
Assigned problems in advanced illustration. Emphasis is placed on originality and the readiness of the student to explore assigned graphical tasks and problems. P. R. T-CAT 213.
- T-CAT 226 Commercial Art and Advertising Design VI** (3-9) 6
A course providing simulated professional working conditions utilizing advanced layout and design techniques for printing. Each student explores a variety of problems and presents his solutions for general class critique and discussion. The climax of the course is a review and presentation of the student's individual portfolio of professional work. P. R. T-CAT 225.
- T-CAT 235 Advertising Art Direction** (5-0) 5
A study of the techniques used in creating effective advertising for various types of media. Physical considerations of the advertisement such as size, position, color, frequency of insertion, layout, coupons and inquiries are considered. Analysis of techniques to cases in national, retail, mail order, industrial and professional advertising with consideration given to budgetary practices. P. R. T-CAT 101, T-CAT 225.

CONSTRUCTION ENGINEERING TECHNOLOGY

The construction industry is large and varied and provides excellent opportunities for the individual with ability and training. Depending on the organization and the size of the project, the technician may work directly with engineers or skilled craftsmen, or he may function as a liaison between them.

Construction engineering technicians perform many of the planning and supervisory tasks necessary in this field. In the planning stages of construction they may be engaged in estimating costs, ordering materials, interpreting specifications, computing cuts and fills and storm drainage requirements, surveying or drafting. Once the actual construction work has begun, many technicians perform supervisory functions. Some may be responsible for seeing that construction activities are performed in proper sequence and for inspecting the work as it progresses for conformance with blueprints and specifications.

An individual, after graduating from this program, should qualify for such jobs as instrument man, party chief, draftsman, foreman, expeditor, surveyor, layout man, engineering aide, inspector and construction equipment and materials salesman. Upon gaining sufficient construction experience, the technician has the opportunity to advance into positions such as field engineer, estimator, job superintendent, project manager and contractor.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College includes both classroom and laboratory experiences with practical application to the construction industry. Well-qualified instructors and excellent equipment provide the student an opportunity to secure the education he needs for the many excellent positions available in this field. The degree Associate in Applied Science in Construction Engineering Technology is awarded upon completion of the curriculum.

A series of electives is available upon sufficient demand to students interested in the architectural aspects of construction engineering.

CONSTRUCTION ENGINEERING TECHNOLOGY

Suggested Sequence of Required Courses

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIRST QUARTER					
T-CIV	101	Surveying I	2	6	4
DFT	101	Technical Drafting I	2	4	3
T-MAT	101	Technical Mathematics I	5	0	5
T-ENG	101	Communications I	3	0	3
T-ENG	100	Speed Reading	2	0	2
			14	10	17

SECOND QUARTER

T-CIV	114	Statics	5	0	5
T-CIV	110	Construction Drafting and Design	2	4	3
T-PHY	101	Physics I: Properties of Matter	3	2	4
T-MAT	102	Technical Mathematics II	5	0	5
			15	6	17

THIRD QUARTER

T-CIV	102	Surveying II	2	6	4
T-CIV	218	Plain Concrete	1	3	2
T-CIV	217	Construction Methods and Equipment	3	2	4
T-CIV	216	Strength of Materials	5	0	5
T-ENG	102	Communications II	3	0	3
			14	11	18

FOURTH QUARTER

T-CIV	103	Surveying III	2	6	4
T-CIV	219	Steel and Timber Construction	4	2	5
T-CIV	201	Properties of Engineering Materials	2	3	3
T-PHY	102	Physics II: Work, Energy, Power	3	2	4
T-CIV	223	Codes, Contracts and Specifications	2	2	3
			13	15	19

FIFTH QUARTER

T-CIV	220	Construction Planning (Including CPM)	2	3	3
T-CIV	221	Reinforced Concrete Construction	4	2	5
T-CIV	202	Properties of Soils	2	3	3
T-PHY	103	Physics III: Electricity	3	2	4
T-PSY	206	Applied Psychology	3	0	3
			14	10	18

SIXTH QUARTER

T-CIV	225	Construction Estimates and Costs	3	3	4
T-CIV	210	Structural Drafting and Design	2	4	3
T-CIV	226	Foundation Construction	3	2	4
T-CIV	227	Construction of Roads and Pavements	2	2	3
ECO	201	Economics I	3	0	3
T-ENG	103	Communications III	3	0	3
			16	11	20

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

T-CIV 101 Surveying I (2-6) 4

The theory and practice of plane surveying, including taping, differential and profile leveling, cross sections, slope staking, earthwork computations, transit, measurements of angles and directions and transit-tape surveys. C. R. T-MAT 101, DFT 101.

DFT 101 Technical Drafting I (2-4) 3

An introduction to drafting and design practices and principles. The attainment of the basic skills and techniques of drafting including use of drafting equipment, lettering, freehand, orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning and noting. Methods of reproducing, filing, and storing drawings are studied, and the student is introduced to "working drawings".

- T-MAT 101 Technical Mathematics I** (5-0) 5
The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinate system and fundamental trigonometric concepts and operations are introduced. C. R. High school geometry or MAT 033.
- T-ENG 101 Communications I** (3-0) 3
This course is designed to aid the student in the improvement of writing and self-expression with emphasis on practical application of grammar and sentence structure. Vocabulary building, as well as a functional approach to writing, is stressed by use of projected materials with emphasis on the mechanics of construction in all areas of good English.
- T-ENG 100 Speed Reading** (2-0) 2
The approach includes a concentrated effort to improve the student's ability to comprehend that which he reads with greater rapidity and accurateness. Special machines are used to broaden the span of sentence recognition, to increase eye coordination, and to improve the common faults of a slow reader.
- T-CIV 114 Statics** (5-0) 5
Forces, resultants, and types of force systems; moments, equilibrium of coplanar forces by analytical and graphic methods; stresses and reactions in simple structures; equilibrium of forces in space; static and kinetic friction; center of gravity, centroids and moment of inertia. C. R. T-MAT 101.
- T-CIV 110 Construction Drafting and Design** (2-4) 3
An introduction to architectural and structural drafting including plans, elevations, sections and construction details of residential and commercial buildings, highways and highway structures. Other topics include reading and analyzing architectural, structural and mechanical blueprints pertaining to building and highway construction and an introduction to specifications. P. R. DFT 101.
- T-PHY 101 Physics I: Properties of Matter** (3-2) 4
A fundamental course covering several basic principles of physics. The divisions included are solids and their characteristics, liquids in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these topics are part of this course.
- T-MAT 102 Technical Mathematics II** (5-0) 5
A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions. P. R. T-MAT 101.
- T-CIV 102 Surveying II** (2-6) 4
Topics studied include traverse surveys and computations, triangulation of ordinary precision, stadia, plane table, land area calculations, topographic surveys and mapping and adjustment of instruments. P. R. T-CIV 101.
- T-CIV 218 Plain Concrete** (1-3) 2
The study and testing of the composition and properties of concrete, including cementing agents, aggregates, admixtures and air-entrainment. Other topics include the design and proportioning of concrete mixes to obtain pre-determined strengths and properties, methods of placing and curing concrete, and standard control tests of concrete. C. R. T-CIV 216.
- T-CIV 217 Construction Methods and Equipment** (3-2) 4
Excavating methods and equipment used in building and highway construction; pile driving; construction techniques and equipment used in reinforced concrete buildings, bridges, lift-slabs, thin-shells and folded plates; erection methods and equipment of structural steel buildings and bridges; carpentry in house and heavy timber construction; construction safety. Field inspection trips. P. R. T-CIV 101; C. R. T-CIV 216, T-CIV 218.

- T-CIV 216 Strength of Materials** (5-0) 5
This course emphasizes fundamental stress and strain relationship, torsion, shear and bending moments, diagrams, stresses and deflections in beams, and introduction to statically indeterminate beams, columns and combined stresses. P. R. T-CIV 114 or T-PHY 106.
- T-ENG 102 Communications II** (3-0) 3
Designed to aid the student in continuing improvement of writing and self-expression in business and composition format. Emphasis is placed on the sentence, paragraph and whole composition. This course is intended to stimulate students in applying the basic principles of English. P. R. T-ENG 101.
- T-CIV 103 Surveying III** (2-6) 4
Horizontal and vertical curves; land surveying; introduction to photogrammetry and its application; building and highway construction surveying, including lines and grades for roads; foundation layout and building construction; sewer and pipe line surveys. P. R. T-CIV 102.
- T-CIV 219 Steel and Timber Construction** (4-2) 5
The analysis and basic design, according to the latest AISC specifications, of steel beams, tension members, columns, and riveted high strength bolted and welded connections; the study of plate girders, industrial building roofs and bents, continuous spans, lightweight steel construction; the use of the latest American Institute of Steel Construction Manual. Design of timber members and their connections. Field inspection trips. P. R. T-CIV 216.
- T-CIV 201 Properties of Engineering Materials** (2-3) 3
The study and testing of the properties of ferrous and non-ferrous metals, welds, timber, stone, clay products, plastics, load and strain measurements; the behavior of materials under load; qualities other than strength; control of the properties of materials; non-destructive tests. P. R. T-PHY 101, T-CIV 216.
- T-PHY 102 Physics II: Work, Energy, Power** (3-2) 4
The major areas covered in this course are work, energy, and power. Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurement and their applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas. P. R. T-PHY 101, T-MAT 101.
- T-CIV 223 Codes, Contracts and Specifications** (2-2) 3
The basic principles and methods most significant in contract relationships; appreciation of the legal considerations in construction work; study of the national, state and local building codes; interpreting and outlining specifications.
- T-CIV 220 Construction Planning (Including CPM)** (2-3) 3
The analysis of construction plant layout requirements and contractor's organization for building and highway projects. Construction scheduling; project control and supervision; coordinating trades on building construction. Operations, charts, and practical application of critical path method (CPM) for construction planning, scheduling, and "time-cost" determination. P. R. T-CIV 217.
- T-CIV 221 Reinforced Concrete Construction** (4-2) 5
The analysis and design, by means of both the working and ultimate strength methods of the latest ACI Building Code, of reinforced concrete rectangular beams, T-beams, continuous members, columns, composite construction, and floor systems composed of one-way slabs, two-way slabs or flat slabs. Use of the latest CRSI Design Handbook; principles of prestressed and precast concrete. Field inspection trips. P. R. T-CIV 216, T-CIV 218.
- T-CIV 202 Properties of Soils** (2-3) 3
A study of soil types and their physical properties; mechanical analysis and standard tests of soils; techniques of subsurface investigation; earth pressure theories; bearing capacity; stability of slopes; hydrostatics of ground water; methods of compaction and consolidation. P. R. T-CIV 216.

- T-PHY 103 Physics III: Electricity** (3-2) 4
Basic theories of electricity, types of electricity, methods of producing, transmitting and transforming electricity. Electron theory, electricity by chemical action, electricity by friction, electricity by magnetism, induction, voltage, amperage, resistance, horsepower, wattage and transformers are major parts of the course. P. R. T-PHY 101, T-MAT 102.
- T-PSY 206 Applied Psychology** (3-0) 3
A study of the principles of psychology which will be of assistance in the understanding of interpersonal relations of the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
- T-CIV 225 Construction Estimates and Costs** (3-3) 4
The interpretation of working drawings of timber, structural steel and reinforced concrete structures and highways; preparation of materials and labor quantity surveys from plans and specifications; approximate and detailed estimates of costs, bidding procedures and preparation of bids. P. R. T-CIV 110; C. R. T-CIV 223.
- T-CIV 210 Structural Drafting and Design** (2-4) 3
The course stresses designing and detailing of the component parts of steel, timber, and reinforced concrete structures, using the latest steel and reinforced concrete handbooks. Conventional methods of representation, dimensioning, detailing, markings, and connections of structural and reinforced steel are also studied. Modern fabricating shop practices are included. P. R. T-CIV 110, T-CIV 219, T-CIV 221.
- T-CIV 226 Foundation Construction** (3-2) 4
Exploration of sites; study of principles of foundation action; theory and construction practices pertaining to excavation bracing, cofferdams, drainage, stabilization, various types of footings, foundation walls, pile foundation, retaining walls, shoring and underpinning. Field inspection trips. P. R. T-CIV 219, T-CIV 221, T-CIV 202.
- T-CIV 227 Construction of Roads and Pavements** (2-2) 3
Construction practices are studied for various types of road building, including soil properties, grading, subgrading, base courses, drainage, embankments, compaction and formwork. The design, construction and testing of rigid portland cement, concrete and flexible bituminous pavements are emphasized. Field inspection trips. P. R. T-CIV 217, T-CIV 202, T-CIV 217; C. R. T-CIV 103.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organizations; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- T-ENG 103 Communications III** (3-0) 3
The fundamental concepts of English are utilized as a background for the organization and techniques of modern report and technical report writing. This course offers exercises in developing typical reports, letters, memoranda and resumes. Writing techniques of structure and syntax are emphasized. At the end of the term each student is required to prepare a report pertaining to his chosen curriculum. P. R. T-ENG 102.

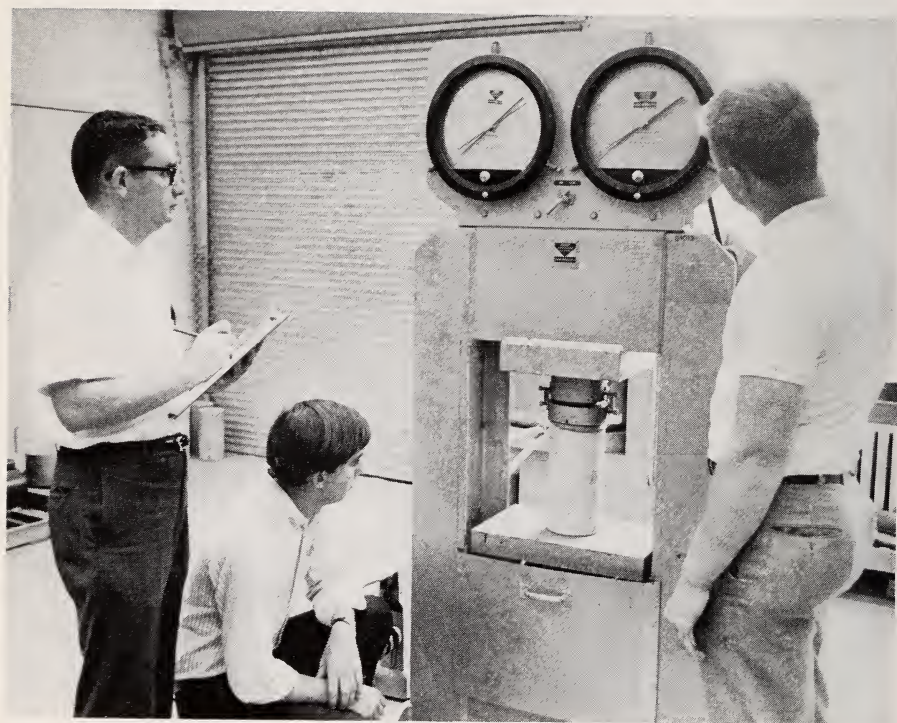
ELECTIVES*

- T-DFT 106 Architectural Drafting I** (2-4) 3
A course designed to provide fundamental knowledge of the principles of drafting. The basic skills and techniques of drafting which are taught include use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction and orthographic instrument drawing of principal views. Projection problems deal with principles of descriptive geometry involving points, lines, planes and connectors. The principles of isometric, oblique and perspective drawings are introduced.

- T-DFT 107 Architectural Drafting II** (2-4) 3
Development of techniques in architectural lettering, symbols and their interpretation, dimensioning, freehand and instrument drafting. Drawing of construction details, using appropriate material symbols and connections, is stressed. Sections, scale details and full-size details will be prepared from preliminary sketches. Applications of descriptive geometry are used in the visualization and analytical solutions of drafting problems involving auxiliary views, intersections and developments. P. R. T-DFT 106.
- T-DFT 108 Architectural Drafting III** (2-6) 4
An approach in depth to the study of architectural drafting which stresses the development of techniques in architectural lettering, dimensioning, freehand sketching and instrument drawing. Working drawings, including plans, elevations, sections, scale details and full-size details will be prepared from preliminary sketches. P. R. T-DFT 107; C. R. T-CIV 105.
- T-DFT 220 Architectural Drafting IV** (2-6) 4
A continuation of T-DFT 220 with emphasis on drawing structural plans and details as prepared for building construction including steel, concrete and timber structural components. Reference materials will be used to provide the draftsman with skills and knowledge in locating data and in using handbooks. P. R. T-DFT 108.
- T-DFT 221 Architectural Drafting V** (2-6) 4
Drawing of plans and details for such mechanical equipment as air conditioning, plumbing and electrical systems by using appropriate symbols and conventions. Consideration is given to coordination of mechanical and electrical features with structural and architectural components. P. R. T-DFT 220.
- T-DFT 222 Architectural Drafting VI** (2-6) 4
Preparation of the complete set of working drawings for the architectural structure. Preparation of millwork drawings, cabinets and built-in equipment detail drawings, and door, window and room schedules. Site and landscaping plans will be studied and drawn. Final assembly of the complete document for construction purposes will be made. P. R. T-DFT 221, T-CIV 101, T-DFT 235.
- T-CIV 105 Architectural Materials and Methods** (3-0) 3
Materials used in the construction of architectural structures will be studied. Field trips will be made to construction sites. Study of manufacturers' specifications for materials, properties and standard sizes of structural materials, and construction techniques are included.
- T-DFT 233 Office Practice Seminar** (2-3) 3
A study of the professional relationship of the architectural firm to clients, contractors, suppliers, consultants and other architects. Ethics of the profession as applicable to the draftsman's role in the architectural firm will be stressed.
- T-AHR 106 Architectural Mechanical Equipment** (3-3) 4
A general study of heating, air conditioning, plumbing and electrical equipment, materials and symbols. The course includes building code requirements pertaining to residential and commercial structures, reading and interpretation of working drawings by mechanical engineers and coordination of mechanical and electrical features with structural and architectural designs.

*Offered on demand only.





DENTAL HYGIENE

The dental hygienist usually is a young lady meeting college entrance standards, attaining an above average position in her graduating class and earning a creditable score on several batteries of tests. In her quest for a professional career she is prepared for health services rich in human contacts. She achieves satisfaction from helping others and gains security in an expanding and highly regarded profession as a necessary member of the dental health team. Her duties are myriad and her responsibilities challenging.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College will include a background of basic studies, specialized instruction and directed experience. The dental hygiene student will cultivate the judgment and skill prerequisite to providing to the public oral health care under the supervision of the dentist within the limits of the ethics and laws of the state.

The students receive instruction in general anatomy and physiology, histology, pathology, chemistry, bacteriology, hygiene, public health, dental anatomy, nutrition, pharmacology, first aid, dental health education, ethics and jurisprudence, economics, speech, English composition, sociology, psychology, dental materials, radiology, human relations, records, clinical dental hygiene and general education electives.

The curriculum is accredited by the American Dental Association Council on Dental Education and must also satisfy the educational, professional, ethical and legal standards of the American Dental Association Council on Dental Education, the North Carolina State Department of Community Colleges, the North Carolina State Board of Dental Examiners, the American Dental Hygienists Association, the North Carolina Dental Society and the North Carolina Dental Hygienists Association. Graduates in this curriculum receive the degree Associate in Applied Science in Dental Hygiene.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	English Composition I	3	0	3
T-DEN	102	Dental Anatomy I	2	6	5
BIO	110	Human Anatomy and Physiology I	4	2	5
T-DEN	215	Preventive Dentistry I (Replacing T-Den 101)	2	0	2
T-PSY	112	Personality Development	3	0	3
			14	8	18
SECOND QUARTER					
ENG	102	English Composition II	3	0	3
T-DEN	103	Dental Anatomy II	2	6	5
BIO	111	Human Anatomy and Physiology II	4	2	5
T-DEN	106	Nutrition	3	0	3
T-DEN	216	Preventive Dentistry II (Formerly T-Den 204 and T-Den 209)	2	0	2
			14	8	18

THIRD QUARTER

ENG	103	English Composition III	3	0	3
BIO	150	General Bacteriology	4	2	5
T-DEN	104	Dental Hygiene I (Formerly Clinical Practice I)	1	7	3
T-CHM	150	Chemistry	4	2	5
			12	11	16

FOURTH QUARTER

SPH	101	Oral Communication	3	0	3
T-DEN	206	Embryology and Oral Histology	4	2	5
T-DEN	105	Dental Hygiene II (Formerly Clinical Practice II)	2	13	6
T-DEN	110	Head and Neck Anatomy	2	0	2
T-DEN	217	Preventive Dentistry III (Formerly T-Den 205)	3	0	3
			14	15	19

FIFTH QUARTER

T-DEN	207	Pharmacology	3	0	3
T-DEN	214	Office Emergencies	2	0	2
T-DEN	201	Dental Hygiene III (Formerly Clinical Practice III)	0	17	5
T-DEN	108	Dental Materials and Procedure	3	4	4
T-DEN	218	Preventive Dentistry IV (Formerly T-Den 211 and T-Den 208)	2	0	2
			10	21	16

SIXTH QUARTER

T-DEN	213	Pathology	3	0	3
ECO	201	Economics I	3	0	3
PSY	201	General Psychology I	5	0	5
T-DEN	212	Practice Administration	3	0	3
T-DEN	202	Dental Hygiene IV (Formerly Clinical Practice IV)	0	17	5
			14	17	19

SEVENTH QUARTER

SOC	201	Introduction to Sociology	5	0	5
T-DEN	107	First Aid	2	0	2
PSY	202	Human Development	5	0	5
T-DEN	203	Dental Hygiene V (Formerly Clinical Practice V)	0	20	6
			12	20	18

COURSE DESCRIPTIONS

ENG 101 English Composition I (3-0) 3
Extensive study of and practice in effective expository writing, emphasizing principles of grammar, punctuation and organization.

T-DEN 102 Dental Anatomy I (2-6) 5
Structural formation and anatomy of the teeth, eruption data, and gross structure of supporting tissues with emphasis on comparative anatomy. Attention is given to the reproduction of tooth forms by drawing.

BIO 110 Human Anatomy and Physiology I (4-2) 5
A study of the structure and normal functions of the human body and its systems with emphasis upon the inter-related functions of various parts and systematic processes in the development of basic physiological principles.

T-DEN 215 Preventive Dentistry I (2-0) 2
The preservation and improvement of health in the community through improving personal habits and conditions of the individual and community. This includes emphasis upon the problems of individual health through an analysis of the various forces which affect the human organism and the application of scientific facts and principles to these forces.

- T-PSY 112 Personality Development** (3-0) 3
The course is designed to help the student recognize the importance of the physical, intellectual, social and emotional dimensions of personality. Emphasis is placed on grooming and methods of personality improvement.
- ENG 102 English Composition II** (3-0) 3
Continuation of the study of composition, emphasizing interpretation and evaluation of expository, narrative and creative writing. P. R. ENG 101.
- T-DEN 103 Dental Anatomy II** (2-6) 5
A continuation of T-DEN 102 with study given to structure, eruption data, and comparative dental anatomy of deciduous teeth. A specifically detailed study of occlusion and the manual carving of teeth in wax is also included. P. R. T-DEN 102.
- BIO 111 Human Anatomy and Physiology II** (4-2) 5
A continuation of BIO 110. P. R. BIO 110.
- T-DEN 106 Nutrition** (3-0) 3
The basic principles of nutrition in relation to health and disease. A consideration of diet in reference to body tissues in general and teeth in particular is included.
- T-DEN 216 Preventive Dentistry II** (4-2) 5
A survey of the theory and practice of preventive dentistry with emphasis upon the principles and problems of community dental health.
- ENG 103 English Composition III** (3-0) 3
Further study in composition, emphasizing the research paper. P. R. ENG 102.
- BIO 150 General Bacteriology (Microbiology)** (4-2) 5
An introductory course in general bacteriology with a survey of microscopical plant and animal forms with emphasis upon the morphology, physiology and ecology of bacteria. The nature and activities of common microorganisms of humans, soil, water, food and milk. P. R. BIO 101.
- T-DEN 104 Dental Hygiene I** (1-7) 3
Clinical Practice I including Roentgenology. A study of the techniques of oral prophylaxis as performed within legal limits by the dental hygienist. Clinical practice upon other students and manikins sufficient to render the student competent to perform dental prophylaxis is included. A study is made of the factors which contribute to a healthy condition of the mouth with special attention given to the measures employed to arrest dental caries and adjacent tissue degeneration. The course includes chairside instruction in the dental health of the patient. P. R. T-DEN 103, T-DEN 216.
- T-CHM 150 Chemistry** (4-2) 5
Basic chemistry is introduced briefly to aid the student in understanding the organic and biological phases which follow. Emphasis is placed upon those areas of chemistry involved in normal and abnormal cell functions. Various chemicals of the body are studied as they relate to specific physiological processes. Mathematical computations are limited to those necessary to understand laboratory reports and develop a concept of the quantitative nature of chemistry.
- SPH 101 Oral Communication** (3-0) 3
Principles of effective communication with emphasis upon self-expression in conversation, interviewing, understanding, listening, questioning, conferences and vocabulary. P. R. T-ENG 101 or ENG 101.
- T-DEN 206 Embryology and Oral Histology** (4-2) 5
An introductory study of cells, tissues, and organic structures with particular reference to the teeth and oral structures. The use of the microscope and the examination of slides and tissues are included. P. R. BIO 110, BIO 111, BIO 112, T-CHM 150.
- T-DEN 105 Dental Hygiene II** (2-13) 6
Clinical Practice II. A continuation of Dental Hygiene I.
- T-DEN 110 Head and Neck Anatomy** (2-0) 2
A detailed study of the musculature, blood and nerve supply of the head and neck, reviewing the bones, landmarks, sinuses and foramina of the skull. P. R. BIO III.

- T-DEN 217 Preventive Dentistry III** (3-0) 3
Methods and materials used in teaching dental health in schools, in public health institutions, in industry and in dental practice; uses of statistical, visual and auditory aids; records and reports. P. R. Fourth Quarter Standing.
- T-DEN 207 Pharmacology** (3-0) 3
A study of drugs by groups, with special consideration of those used in dentistry, including physical and chemical properties, dosage and therapeutic effects. P. R. T-CHM 150, BIO 111.
- T-DEN 214 Office Emergencies** (2-0) 2
Enumeration, description, symptoms and treatment of the various crises that could arise in the dental office. Included are detailed explanations of the more common emergencies and demonstrations of methods that may be used in their treatment. P. R. T-DEN 207, T-DEN 107, T-CHM 150.
- T-DEN 201 Dental Hygiene III** (0-17) 5
Clinical Practice III. A continuation of Dental Hygiene II.
- T-DEN 108 Dental Materials and Procedure** (3-4) 4
A study of the composition and source of materials employed in dentistry and their behavior under various treatments. The dental hygiene student learns through lectures, demonstrations and laboratory exercises to identify and prepare these materials for any of the routine dental procedures in the general practice of dentistry and in the specialties of the dental profession.
- T-DEN 218 Preventive Dentistry IV** (2-0) 2
A continuation of Preventive Dentistry III. This course describes the various stages of prevention with explanation of the manner in which dentists can encounter any stage and practice prevention. Study is also given to ethics and jurisprudence in relationship to the public and fellow team workers.
- T-DEN 213 Pathology** (3-0) 3
An introduction to general pathology, with consideration of the more common diseases affecting the human body. The clinical pathology of the diseases affecting teeth and their supporting structures, including consideration of oral manifestations of selected systemic disturbances, is studied. P. R. T-DEN 205.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organization; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- PSY 201 General Psychology I** (5-0) 5
A survey of psychology, including organic structure, perception, motivation, learning, principles of behavior, measurements and theories of psychology.
- T-DEN 212 Practice Administration** (3-0) 3
The study of the correct management of a dental practice. It is stressed that dentistry is not only a profession but is also a business which concerns itself with right relations with the patient, with other dentists and physicians and with the keeping of adequate service and financial records. The importance of personal and public relations, economics and community and social relations is included. P. R. Sixth Quarter Standing.
- T-DEN 202 Dental Hygiene IV** (0-17) 5
Clinical Practice IV. A continuation of Dental Hygiene III.
- SOC 201 Introduction to Sociology** (5-0) 5
An analysis of the society and culture dealing with social organization, control institutions, stratification and social change.
- T-DEN 107 First Aid** (2-0) 2
Consideration of causes of accidents; safeguards against accidents; first aid as a preventive measure; administration of first aid promptly and intelligently when emergency demands.
- PSY 202 Human Development** (5-0) 5
Development of the normal child and adolescent, with consideration of the social, biological and cultural influences upon growth. P. R. PSY 201.
- T-DEN 203 Dental Hygiene V** (0-20) 6
Clinical Practice V. A continuation of Dental Hygiene IV.

ELECTRONIC DATA PROCESSING: BUSINESS

Data Processing is one of the fastest growing of the new occupations developing in our rapidly changing technological society. This relatively new occupation offers unlimited opportunities for technicians with good backgrounds in this highly specialized field.

The occupational field of data processing offers a wide variety of relatively new occupation offers unlimited opportunities for technicians with good backgrounds in this highly specialized field.

DESCRIPTION OF CURRICULUM

The curriculum offered at Central Piedmont Community College is designed to develop an individual with the academic background necessary for analyst procedures. Two well-equipped laboratories, consisting of a complete computer system, give ample opportunity for students to learn techniques as well as write programs. Graduates from this program receive the degree Associate in Applied Science in Business Electronic Data Processing.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per Week	Quarter Hours Credit	
			Class	Lab.	
FIRST QUARTER					
T-ENG	101	Communications I	3	0	3
T-MAT	101	Technical Mathematics I	5	0	5
T-BUS	101	Introduction to Business	3	0	3
T-EDP	101	Functional Wiring Principles	2	3	3
T-EDP	104	Introduction to Electronic Data Processing	3	2	4
T-ENG	100	Speed Reading	2	0	2
			18	5	20
SECOND QUARTER					
T-ENG	102	Communications II	3	0	3
T-MAT	102	Technical Mathematics II	5	0	5
T-EDP	106	Business Programming Languages	2	4	4
T-EDP	102	Punch Card Applications	2	3	3
T-MAT	214	Statistics I	5	0	5
			17	7	20
THIRD QUARTER					
T-ENG	103	Communications III	3	0	3
T-EDP	108	Scientific Programming Languages	2	4	4
BUS	120	Accounting I	5	2	6
T-MAT	215	Statistics II	4	0	4
			14	6	17
FOURTH QUARTER					
T-PSY	206	Applied Psychology	3	0	3
SPH	101	Oral Communication	3	0	3
T-EDP	202	Business Data Processing	2	4	4
BUS	121	Accounting II	5	2	6
T-EDP	205	Operations Research	2	2	3
			15	8	19
FIFTH QUARTER					
T-EDP	203	Programming for Business Applications	2	4	4
T-BUS	222	Intermediate Accounting I	5	2	6
T-BUS	235	Business Management	4	0	4
T-EDP	219	Systems and Procedures	3	0	3
			14	6	17

SIXTH QUARTER

ECO	201	Economics I	3	0	3
T-EDP	216	Business Research Project	2	6	5
T-EDP	220	Applied Business Systems	3	0	3
T-BUS	223	Intermediate Accounting II	5	2	6
T-BUS	217	Legal Environment of Business	3	0	3
			16	8	20

COURSE DESCRIPTION

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

T-ENG 101 Communications I (3-2) 3

This course is designed to aid the student in the improvement of writing and self-expression with emphasis on practical application of grammar and sentence structure. Vocabulary building, as well as a functional approach to writing, is stressed by use of projected materials with emphasis on the mechanics of construction in all areas of good English.

T-ENG 100 Speed Reading (2-0) 2

The approach includes a concentrated effort to improve the student's ability to comprehend that which he reads with greater rapidity and accurateness. Special machines are used to broaden the span of sentence recognition, to increase eye coordination, and to improve the common faults of a slow reader.

T-MAT 101 Technical Mathematics I (5-0) 5

The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinate system and fundamental trigonometric concepts and operations are introduced. C. R. High school credit in geometry or MAT 033.

T-EDP 101 Functional Wiring Principles (2-3) 3

The fundamental principles of control-panel wiring necessary to perform basic machine functions of a unit record installation. Laboratory experiments on the keypunch, verifier, sorter, interpreter, reproducing punch, collator and accounting machine support the theoretical aspect of the course.

T-EDP 104 Introduction to Electronic Data Processing (3-2) 4

The fundamental concepts and principles of data processing systems are presented as an aid in developing the basic knowledge prerequisite for a future detailed study of computer systems and programming. This course provides a general knowledge of computer systems, data processing terminology, computer applications, flow charting, types of computer instructions and programming in basic language.

T-BUS 101 Introduction to Business (3-0) 3

A comprehensive introduction to business operations and organization, with an analysis of forms of business ownership, business functions and problems of management. Choosing a location and product line, design, production, sales and personnel staffing are topics studied. (To be taken in first possible quarter.)

T-ENG 102 Communications II (3-0) 3

Designed to aid the student in continuing improvement of writing and self-expression in business and composition format. Emphasis is placed on the sentence, paragraph and whole composition. This course is intended to stimulate students in applying the basic principles of English. P. R. T-ENG 101.

T-MAT 102 Technical Mathematics II (5-0) 5

A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric fractions. P. R. T-MAT 101.

T-EDP 106 Business Programming Languages (2-4) 4

The study of business processor and compiler languages. The student programs in current, applicable business language (business software) such as SPSII—Disk and COBOL. The exercises are limited to short problems which illustrate flow charting and program statements for the compiler language being studied. P. R. T-EDP 104.

- T-EDP 102 Punch Card Applications** (2-3) 3
The fundamental principles of control-panel wiring necessary to perform advanced machine functions of a unit record installation. Laboratory experiments are performed on the same equipment as T-EDP 101 with an introduction to the calculator. A case study of a unit-record application is investigated. P. R. T-EDP 101.
- T-MAT 214 Statistics I** (5-0) 5
A study of the theory and application of statistics. Experience is given in the association and use of statistical techniques in the prediction and estimation of the outcomes of experiments related to practical problems in business and scientific data processing. Practical experience is gained in the utilization of computers in the statistical solution of problems. P. R. T-MAT 101.
- T-ENG 103 Communications III** (3-0) 3
The fundamental concepts of English are utilized as a background for the organization and techniques of modern report and technical report writing. This course offers exercises in developing typical reports, letters, memoranda and resumes. Writing techniques of structure and syntax are emphasized. At the end of the term each student is required to prepare a report pertaining to his chosen curriculum. P. R. T-ENG 102.
- T-EDP 108 Scientific Programming Languages** (2-4) 4
The study of scientific compiler languages. The student programs in a current applicable scientific language, FORTRAN. The exercises are limited to short problems which illustrate statements and their functions for the compiler language under consideration. P. R. T-EDP 104, T-MAT 102.
- T-MAT 215 Statistics II** (4-0) 4
A continuation of Statistics I with emphasis on Chi-square analysis, analysis of variance, multiple regression, and trend analysis. P. R. T-MAT 214, T-MAT 102.
- BUS 120 Accounting I** (5-2) 6
Introductory accounting principles designed to provide an understanding of accounting data. Accumulating, summarizing, analyzing and reporting information about service and mercantile enterprises are emphasized. Individual ownerships and partnerships are the business organizations stressed. Also included is a study of payrolls and payroll taxes.
- T-PSY 206 Applied Psychology** (3-0) 3
A study of the principles of psychology which will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
- SPH 101 Oral Communication** (3-0) 3
Principles of effective communication with emphasis upon self-expression in conversation, interviewing, understanding, listening, questioning, conferences and vocabulary. P. R. T-ENG 101.
- T-EDP 202 Business Data Processing** (2-4) 4
The effective use of data processing equipment in meeting the informational needs of business, utilizing symbolic programming systems in the solution of problems. The student originates and/or investigates existing automated procedures for various business problems such as payroll, labor distribution and inventory, with emphasis on (1) problem definition, (2) system flow charts, (3) program flow charts, (4) computer programs, (5) wiring for unit record equipment, (6) sample input data, (7) sample output data and report formats and (8) operation instructions necessary for a given business applications. P. R. T-EDP 108, BUS 120.
- BUS 121 Accounting II** (5-2) 6
Emphasis is placed on recording, summarizing and interpreting data for management control rather than on bookkeeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems. The corporate form of business is studied. P. R. BUS 120.

- T-EDP 205 Operations Research** (2-2) 3
Mathematical models effective in management planning, scheduling, and control are studied. The student investigates problems applicable to linear programming models, transportation model, assignment model, CPM, PERT, and queuing theory. The computer will be utilized for problem solution using available library programs. P. R. T-EDP 108, T-MAT 214, T-MAT 102.
- T-EDP 203 Programming for Business Applications** (2-4) 4
An accounting problem is used to demonstrate the programming techniques required in the recording of transactions in the various journals. The problem is carried through to the output of a trial balance. Adjustments and corrections are reviewed. Statistical analysis programming using a scientific language is studied as an aid to business decisions. P. R. T-EDP 202.
- T-BUS 222 Intermediate Accounting I** (5-2) 6
An introduction to and review of fundamental processes of accounting. Emphasis is placed upon a thorough working knowledge and understanding of financial statements. Individual items in the balance sheet and income statement are analyzed and evaluated. P. R. BUS 121.
- T-BUS 235 Business Management** (4-0) 4
A study in depth of the principles of management. The major functions of planning, organizing, staffing, directing and controlling a firm's operations are carefully analyzed. Case studies and own company analysis are integral parts of the course. P. R. Full Fifth Quarter Status.
- T-EDP 219 Systems and Procedures** (3-0) 3
An introductory course in the principles of management systems applied to information data flows. Particular attention is given to forms flow charting, forms analysis and design and systems analysis. P. R. Approval of Department.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organization; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- T-EDP 216 Business Research Project** (2-6) 5
The work of the student during this quarter gives him an opportunity to initiate and carry out a complete project. This course places the responsibility upon the student to solve a significant problem with a minimum of assistance from the instructor. P. R. T-EDP 203, T-BUS 222, T-EDP 219.
- T-EDP 220 Applied Business Systems** (3-0) 3
A continuation of management systems applied to information data flow. Practical work in systems flow charting and analysis is emphasized. The conduction of feasibility studies, the preparation and maintenance of standard practice, policy and organization manuals, and computer applications are stressed. P. R. T-EDP 219.
- T-BUS 223 Intermediate Accounting II** (5-2) 6
A continuation of the study begun in T-BUS 222. The application of accounting principles and concepts to account evaluation and income determination is emphasized. Special problems peculiar to corporations and analyses of financial reports are considered. P. R. T-BUS 222.
- T-BUS 217 Legal Environment of Business** (3-0) 3
A study of the powers, policies, methods and procedures used by federal and state administrative agencies in promoting and regulating business enterprises. The course includes a consideration of the constitutional and statutory limitations on these commissions and judicial review of administrative action.
- T-MAT 121 Numbering Systems and Boolean Algebra** (4-0) 4
Topics include an introduction to numbering systems with bases other than ten, transformation from one system to another, and fundamental operations in systems other than the decimal. The fundamental postulates, theorems, functions and operations of Boolean Algebra are studied and applied to computer logic designs and switching circuits. The logic of circuit design is considered rather than the electronic components used.

ELECTRONIC DATA PROCESSING: SCIENTIFIC

Data Processing is one of the fastest growing of the new occupations developing in our rapidly changing technological society. This relatively new occupation offers unlimited opportunities for technicians with good backgrounds in this highly specialized field.

The occupational field of data processing offers a wide variety of activity with specialization possible in many of the areas. The industrial and business hierarchy includes systems and numerical analysts, programmers, coders and machine operators.

DESCRIPTION OF CURRICULUM

The curriculum offered at Central Piedmont Community College is designed to develop an individual with the academic background necessary for analyst procedures. Two well-equipped laboratories, consisting of a complete computer system, give ample opportunity for students to learn techniques as well as write programs. Graduates from this program receive the degree Associate in Applied Science in Scientific Data Processing.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per Class	Week Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Communications I	3	0	3
T-MAT	101	Technical Mathematics I	5	0	5
T-BUS	101	Introduction to Business	3	0	3
T-EDP	101	Functional Wiring Principles	2	3	3
T-EDP	104	Introduction to Electronic Data Processing	3	2	4
T-ENG	100	Speed Reading	2	0	2
			18	5	20
SECOND QUARTER					
T-ENG	102	Communications II	3	0	3
T-MAT	102	Technical Mathematics II	5	0	5
T-EDP	106	Business Programming Languages	2	4	4
T-MAT	214	Statistics I	5	0	5
			15	4	17
THIRD QUARTER					
T-ENG	103	Communications III	3	0	3
T-EDP	108	Scientific Programming Languages	2	4	4
T-MAT	103	Technical Mathematics III	5	0	5
T-PHY	101	Physics I: Properties of Matter	3	2	4
T-MAT	215	Statistics II	4	0	4
			17	6	20
FOURTH QUARTER					
SPH	101	Oral Communication	3	0	3
T-EDP	204	Scientific Data Processing	2	4	4
T-MAT	201	Technical Mathematics IV	5	0	5
T-EDP	205	Operations Research	2	2	3
T-PHY	102	Physics II: Work, Energy, Power	3	2	4
			15	8	19
FIFTH QUARTER					
T-EDP	206	Programming for Scientific Applications	2	4	4
BUS	120	Accounting I	5	2	6
T-EDP	225	Numerical Analysis for Programming	3	2	4
T-EDP	219	Systems and Procedures	3	0	3
			13	8	17

SIXTH QUARTER

T-PSY	206	Applied Psychology	3	0	3
T-EDP	217	Scientific Research Project	3	6	6
ECO	201	Economics I	3	0	3
T-MAT	219	Differential Equations	5	0	5
			14	6	17

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

T-ENG 100 Speed Reading (2-0) 2

The approach includes a concentrated effort to improve the student's ability to comprehend that which he reads with greater rapidity and accurateness. Special machines are used to broaden the span of sentence recognition, to increase eye coordination, and to improve the common faults of a slow reader.

T-ENG 101 Communications I (3-0) 3

This course is designed to aid the student in the improvement of writing and self-expression with emphasis on practical application of grammar and sentence structure. Vocabulary building, as well as a functional approach to writing, is stressed by use of projected materials with emphasis on the mechanics of construction in all areas of good English.

T-MAT 101 Technical Mathematics I (5-0) 5

The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinate system and fundamental trigonometric concepts and operations are introduced. C. R. High school credit in geometry or MAT 033.

T-BUS 101 Introduction to Business (3-0) 3

A comprehensive introduction to business operations and organization with an analysis of forms of business ownership, business functions and problems of management. Choosing a location and production line, design, production, sales and personnel staffing are topics studied. (To be taken in first possible quarter.)

T-EDP 101 Functional Wiring Principles (2-3) 3

The fundamental principles of control-panel wiring necessary to perform basic machine functions of a unit record installation. Laboratory experiments on the keypunch, verifier, sorter, interpreter, reproducing punch, collator and accounting machine support the theoretical aspect of the course.

T-EDP 104 Introduction to Electronic Data Processing (3-2) 4

The fundamental concepts and principles of data processing systems are presented as an aid to developing the basic knowledge prerequisite for a future detailed study of computer systems and programming. This course provides a general knowledge of computer systems, data processing terminology, computer applications, flow charting, types of computer instructions, and programming in basic language.

T-ENG 102 Communications II (3-0) 3

Designed to aid the student in continuing improvement of writing and self-expression in business and composition format. Emphasis is placed on the sentence, paragraph and whole composition. This course is intended to stimulate students in applying the basic principles of English. P. R. T-ENG 101.

T-MAT 102 Technical Mathematics II (5-0) 5

A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions. P. R. T-MAT 101.

- T-EDP 106 Business Programming Languages** (2-4) 4
The study of business processor and compiler languages. The student programs in current, applicable business language (business software) such as SPSII—Disk and COBOL. The exercises are limited to short problems which illustrate flow charting and program statements for the compiler language being studied. P. R. T-EDP 104.
- T-MAT 214 Statistics I** (5-0) 5
A study of the theory and application of statistics. Experience is given in the association and use of statistical techniques in the prediction and estimation of the outcomes of experiments related to practical problems in business and scientific data processing. Practical experience is gained in the utilization of computers in the statistical solution of problems. P. R. T-MAT 101.
- T-ENG 103 Communications III** (3-0) 3
The fundamental concepts of English are utilized as a background for the organization and techniques of modern report and technical report writing. This course offers exercises in developing typical reports, letters, memoranda and resumes. Writing techniques of structure and syntax are emphasized. At the end of the term each student is required to prepare a report pertaining to his chosen curriculum. P. R. T-ENG 102.
- T-EDP 108 Scientific Programming Languages** (2-4) 4
The study of scientific compiler languages. The student programs in a current applicable scientific language, FORTRAN. The exercises are limited to short problems which illustrate statements and their functions for the compiler language under consideration. P. R. T-EDP 104, T-MAT 102.
- T-MAT 103 Technical Mathematics III** (5-0) 5
The fundamental concepts of analytic geometry and differential and integral calculus are introduced. Topics included are graphing techniques, geometric and algebraic interpretation of the derivative, differentials, rate of change, the integral and basic integration techniques. P. R. T-MAT 102.
- T-MAT 215 Statistics II** (4-0) 4
A continuation of Statistics I with emphasis on Chi-square analysis, analysis of variance, multiple regression, and trend analysis. P. R. T-MAT 214, T-MAT 102.
- T-PHY 101 Physics I: Properties of Matter** (3-2) 4
A fundamental course covering several basic principles of physics. The divisions included are solids and their characteristics, liquids in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these topics are part of this course.
- SPH 101 Oral Communication** (3-0) 3
Principles of effective communication with emphasis upon self expression in conversation, interviewing, understanding, listening, questioning, conference and vocabulary. P. R. T-ENG 101.
- T-EDP 204 Scientific Data Processing** (2-4) 4
The effective use of data processing equipment in the solution of a scientific problem. This course provides the student with a knowledge of programming concepts and techniques as applied in statistics and mathematics. The student also investigates advanced concepts in COBOL programming. P. R. T-EDP 108, T-MAT 215.
- T-MAT 201 Technical Mathematics IV** (5-0) 5
More advanced concepts of differentiation and integration are considered. Included are graphs and derivatives of trigonometric functions, exponential and logarithmic differentiation and integration, integration techniques and tables of integrals, polar equations, parametric equations and Fourier Series. P. R. T-MAT 103.
- T-EDP 205 Operations Research** (2-2) 3
Mathematical models effective in management planning, scheduling and control are studied. The student investigates problems applicable to linear programming models, transportation model, assignment model, CPM, PERT and queuing theory. The computer will be utilized for problem solution using available library programs. P. R. T-EDP 108, T-MAT 214, T-MAT 102.

- T-PHY 102 Physics II: Work, Energy, Power** (3-2) 4
The major areas covered in this course are work, energy and power. Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurement and their applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas. P. R. T-PHY 101, T-MAT 101.
- T-EDP 206 Programming for Scientific Applications** (2-4) 4
This course is designed to expand the scope of scientific data processing and to investigate the automation of quantitative business problems. The student makes a study of library programs and/or analyzes the applications of programs in operation research, statistics and mathematics. P. R. T-MAT 201, T-MAT 215, T-EDP 205.
- BUS 120 Accounting I** (5-2) 6
Introductory accounting principles designed to provide an understanding of accounting data. Accumulating, summarizing, analyzing and reporting information about service and mercantile enterprises are emphasized. Individual ownerships and partnerships are the business organizations stressed. Also included is a study of payrolls and payroll taxes.
- T-EDP 225 Numerical Analysis for Programming** (3-2) 4
A development of the mathematical principles upon which many computing methods are based. Topics introduced include theory of errors, numerical integration and differentiation, summation procedures, numerical solution of equations and various types of approximations. The computer will be utilized when applicable. P. R. T-EDP 204, T-MAT 201.
- T-PSY 206 Applied Psychology** (3-0) 3
A study of the principles of psychology which will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
- T-EDP 217 Scientific Research Project** (3-6) 6
The work of the student during this course gives him an opportunity to initiate and carry out a complete project. This course places the responsibility upon the student to solve a significant problem applicable to scientific data processing. P. R. T-EDP 219, T-EDP 225, T-EDP 206, T-EDP 204.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organization; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- T-MAT 219 Differential Equations** 9 (5-0) 5
Methods of solving first-order and simple higher order ordinary differential equations and linear differential equations with constant coefficients. Solution of differential equations by series and numerical solutions of differential equations utilizing the computer when applicable. P. R. T-EDP 225, T-EDP 206.
- T-EDP 219 Systems and Procedures** (3-0) 3
An introductory course in the principles of management systems applied to information data flows. Particular attention is given to forms flow charting, forms analysis and design and systems analysis. P. R. Approval of Department.
- T-MAT 121 Numbering Systems and Boolean Algebra** (4-0) 4
Topics include an introduction to numbering systems with bases other than ten, transformation from one system to another and fundamental operations in systems other than the decimal. The fundamental postulates, theorems, functions and operations of Boolean Algebra are studied and applied to computer logic designs and switching circuits. The logic of circuit design is considered rather than the electronic components used.

ELECTRICAL-ELECTRONICS ENGINEERING TECHNOLOGY

Electrical Option Electronics Option

The new space industry and a rapidly developing industrial society, with its resulting emphasis on automation, brings an ever-increasing number of job opportunities for people who are well-grounded in electrical and electronic theory and who have knowledge of manufacturing, installing, operating and maintaining electrical and electronic equipment. There is now a great scarcity of these highly-trained technicians; an even greater shortage is predicted. The electrical technician works with such types of electrical and electronic controls as timing devices, magnetic amplifiers, phase shift controls, high frequency heating systems, electronic safety devices, recorders and controls for furnaces and welding. He also works with electrical machines such as motors, generators, transformers and servo mechanisms. Electronic technicians work with some of the above equipment as well as radar, telemetry, microwave and guidance systems, radio, TV systems, computers and specialized electronic equipment used in medicine.

DESCRIPTION OF CURRICULUM

The degree Associate in Applied Science in either Electrical or Electronics Engineering Technology will be awarded upon successful completion of this curriculum. The program at Central Piedmont Community College provides the student with a strong background in electrical and electronic theory along with large amounts of time spent in three excellently-equipped laboratories. This laboratory time provides the student with an opportunity to apply theory to practical problems involving modern equipment. Supporting courses in mathematics, physics and communicative skills help prepare the students for job opportunities as technicians and engineering assistants in such areas as sales, system maintenance, research, development and modification. Electives are provided to enable the student to broaden his background to include the principles of construction wiring and/or electronic data processing.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIRST QUARTER					
T-ENG	101	Communications I	3	0	3
T-MAT	101	Technical Mathematics I	5	0	5
T-PHY	101	Physics I: Properties of Matter	3	2	4
T-ELC	101	Direct Current Electricity	3	4	4
T-ENG	100	Speed Reading	2	0	2
			16	6	18
SECOND QUARTER					
T-ENG	102	Communications II	3	0	3
T-MAT	102	Technical Mathematics II	5	0	5
T-PHY	102	Physics II: Work, Energy, Power	3	2	4
T-ELC	102	Alternating Current Electricity	5	4	6
T-ELC	105	Molecular and Crystal Structure	0	3	1
			16	9	19

THIRD QUARTER

T-ENG	103	Communications III	3	0	3
T-PSY	206	Applied Psychology	3	0	3
T-ELN	103	Electronic Instruments and Measurements	2	4	3
T-ELN	105	Active Electronic Elements	4	3	5
T-PHY	104	Physics IV: Light and Sound	3	2	4
			15	9	18

FOURTH QUARTER

T-ELN	206	Basic Electronic Tube Circuits	5	4	6
T-ELC	201	Electrical Machines	5	6	7
T-MAT	103	Technical Mathematics III	5	0	5
			15	10	18

FIFTH QUARTER

T-ELN	207	Transistor Circuit Design	5	4	6
T-ELC	208	Control Circuits	3	3	4
T-ELN	235	Instrumentation	4	3	5
ECO	201	Economics I	3	0	3
			15	10	18

SIXTH QUARTER

T-ELC	203	Circuit Analysis and Maintenance	5	3	6
T-ELC	204	Industrial Electronics*			
or					
T-ELN	220	Receivers and Transmitters**	3	4	4
T-ELC	205	Planning Electrical Installations*			
or					
T-ELN	227	Ultra High Frequency Techniques**	3	3	4
T-ELN	221	Research Project	3	6	5
			14	16	19

*For students seeking a degree in Electrical Engineering Technology.

**For students seeking a degree in Electronics Engineering Technology.

COURSE DESCRIPTION

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

T-ENG 101 Communications I (3-2) 3

This course is designed to aid the student in the improvement of writing and self-expression with emphasis on practical application of grammar and sentence structure. Vocabulary building, as well as a functional approach to writing, is stressed by use of projected materials with emphasis on the mechanics of construction in all areas of good English.

T-MAT 101 Technical Mathematics I (5-0) 5

The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinate system and fundamental trigonometric concepts and operations are introduced. C. R. High school geometry or MAT 033.

T-PHY 101 Physics I: Properties of Matter (3-2) 4

A fundamental course covering several basic principles of physics. The divisions included are solids and their characteristics, liquids in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these topics are part of this course.

- T-ENG 100 Speed Reading** (2-0) 2
The approach includes a concentrated effort to improve the student's ability to comprehend that which he reads with greater rapidity and accurateness. Special machines are used to broaden the span of sentence recognition, to increase eye coordination, and to improve the common faults of a slow reader.
- T-ELC 101 Direct Current Electricity** (3-4) 4
The basic electricity subjects studied include structure of matter, electrical terminology and symbols, electron theory of current flow, magnets and magnetic fields. The course stresses a mathematical analysis of direct current resistive circuits. Ohm's Law, Kirchhoff's Law and the power law are studied. Fundamental principles of inductors, capacitors and time constant circuits are introduced.
- T-ENG 102 Communications II** (3-0) 3
Designed to aid the student in continuing improvement of writing and self-expression in business and composition format. Emphasis is placed on the sentence, paragraph and whole composition. This course is intended to stimulate students in applying the basic principles of English. P. R. T-ENG 101.
- T-MAT 102 Technical Mathematics II** (5-0) 5
A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions. P. R. T-MAT 101.
- T-PHY 102 Physics II: Work, Energy, Power** (3-2) 4
The major areas covered in this course are work, energy and power. Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurement and their applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas. P. R. T-PHY 101, T-MAT 101.
- T-ELC 102 Alternating Current Electricity** (5-4) 6
This course is based on the theory of alternating current and voltage. Mathematical analysis is made of sine forms. Inductive reactance, capacitive reactance, and impedance characteristics of alternating current circuits are analyzed through the use of vectors. Series and parallel resonant circuit conditions are compared, and practical application of these conditions is made. P. R. T-ELC 101; C. R. T-MAT 102.
- T-ELC 105 Molecular and Crystal Structure** (0-3) 1
A treatment of modern atomic and molecular theory with emphasis on crystal structure as it pertains to solid state electronics. Valence bonding and characteristics of crystalline materials containing donor and acceptor impurities are stressed. C. R. T-ELC 101.
- T-ENG 103 Communications III** (3-0) 3
The fundamental concepts of English are utilized as a background for the organization and techniques of modern report and technical report writing. This course offers exercises in developing typical reports, letters, memoranda and resumes. Writing techniques of structure and syntax are emphasized. At the end of the term each student is required to prepare a report pertaining to his chosen curriculum. P. R. T-ENG 102.
- T-PSY 206 Applied Psychology** (3-0) 3
A study of the principles of psychology which will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
- T-ELN 103 Electronic Instruments and Measurements** (2-4) 3
A study of basic service and laboratory electronic instruments with emphasis on the oscilloscope. Topics studied include theory of operation, function, tolerances and calibration. Laboratory experiences stress the applications of the instruments studied. C. R. T-ELC 102.

- T-ELN 105 Active Electronic Elements** (4-3) 5
The characteristics of semiconductor diodes, transistors, semiconductor controlled switches, and other solid state devices are considered. The theory of emission and characteristics of Kenotrons, pliotrons, phanotrons, thyratrons, ignitrons and other electron tubes are studied. Basic rectifier, amplifier and oscillator circuits are introduced. C. R. T-ELN 103; P. R. T-ELC 105.
- T-PHY 104 Physics IV: Light and Sound** (3-2) 4
A study of sound and wave motion and its technical applications to industry and related fields. Topics include illumination and principles of optical instruments. Practical aspects are emphasized. P. R. T-MAT 102, T-PHY 101.
- T-ELN 206 Basic Electronic Tube Circuits** (5-4) 6
A study of vacuum and gas tube rectifier circuits, wave shaping circuits, amplifiers and oscillators. Practical applications are stressed. P. R. T-ELN 105.
- T-ELC 201 Electrical Machines** (5-6) 7
Principles and characteristics of alternating and direct current machines are studied. Selection, care and application of direct current generators and motors and alternating current generators, transformers and three-phase, synchronous and single-phase motors are included. C. R. T-ELC 102.
- T-MAT 103 Technical Mathematics III** (5-0) 5
The fundamental concepts of analytic geometry and differential and integral calculus are introduced. Topics included are graphing techniques, geometric and algebraic interpretation of the derivatives, differentials, rate of change, the integral and basic integration techniques. P. R. T-MAT 102.
- T-ELN 207 Transistor Circuit Design** (5-4) 6
A detailed study of application, analysis and practical design of semiconductor circuits. Analyses such as hybrid equivalent circuits for transistors are covered. An introduction to theory and application of integrated solid state circuitry is also included. P. R. T-ELN 206.
- T-ELC 208 Control Circuits** (3-3) 4
Topics studied include motor starting and speed controls, switching circuits based on Boolean algebra and open and closed loop servo systems. P. R. T-ELC 201.
- T-ELN 235 Instrumentation** (4-3) 5
A basic study of sensory devices for detecting such physical changes as changes in pressure, temperature, sound, light and electricity. The associated circuitry and indicating devices are also studied. P. R. T-ELC 102.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organization; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- T-ELC 203 Circuit Analysis and Maintenance** (5-3) 6
A systematic analysis of complex circuitry. Topics include methods of locating and correcting malfunctions, troubleshooting by voltage measurements, resistance measurements and wave-form observations. Schematic reading and interpretation are stressed. P. R. T-ELN 235, T-ELC 208.
- T-ELC 204 Industrial Electronics** (3-4) 4
This course stresses electronics as applied to production systems, electronically controlled rectifiers, servomechanism, motors, magnetic amplifiers, ultrasonic cleaning and high frequency heating equipment. P. R. T-ELN 105, T-ELC 208.
- T-ELN 220 Receivers and Transmitters** (3-4) 4
The basic principles of amplitude and frequency modulated transmitters and receivers are studied. Radio frequency and intermediate frequency amplifiers, frequency response, stage gain, distortion, noise characteristics and frequency stability are included in the course. P. R. T-ELN 207.

T-ELC 205 Planning Electrical Installations (3-3) 4
 The chief objectives of the course are familiarization with the National Electrical Code; a knowledge of the power requirements and typical design of industrial and commercial installations; and design of and calculations for illumination and electric heating systems. P. R. T-ELC 101.

T-ELN 227 Ultra High Frequency Techniques (3-3) 4
 This course requires the application of previously studied circuits to the broad field of ultra high frequency. Experiments are performed and theory studied on wave guides, cavity resonators and klystrons. Magnetrons, traveling wave tubes, lasers and masers are studied. P. R. T-ELN 206.

T-ELN 221 Research Project (3-6) 5
 Under the guidance of an instructor, a topic from an area in electrical or electronics technology which is of interest to the student is selected and explored. This topic provides opportunity for library research and laboratory application of principles studied in previous courses. P. R. T-ELN 207, T-ELC 208, T-ELN 235.

ELECTIVES

T-ELC 124 Residential Wiring (3-3) 4
 This course provides instruction and application in the fundamentals of planning, layout and installation of wiring in residential applications. Experience is provided in the application of National Electrical Code regulations to services, switchboards, lighting, fusing, wire sizes, branch circuits and conduits. Related instruction is provided in blueprint reading.

T-ELC 125 Commercial and Industrial Wiring (3-3) 4
 The course deals with the layout, planning and installation of wiring systems in commercial and industrial complexes. Practical experience is provided in the application of the National Electrical Code to wiring, conduit preparation and the installation of simple systems. P. R. T-ELC 124.

T-EDP 104 Introduction to Electronic Data Processing (3-2) 4
 The fundamental concepts and principles of data processing systems are presented as an aid in developing the basic knowledge prerequisite for a future detailed study of computer systems and programming. This course provides a general knowledge of computer systems, data processing terminology, computer applications, flow charting, types of computer instructions and programming in basic language.

T-MEC 101 Machine Processes I (2-3) 3
 An introductory course designed to acquaint the student with the basic hand tools, safety procedures and machine processes of our modern industry. It will include a study of measuring instruments, characteristics of metals and cutting tools. The student will become familiar with the lathe family of machine tools by performing selected operations such as turning, facing, threading, drilling, boring and reaming.

DFT 101 Technical Drafting I (2-4) 3
 An introduction to drafting and design practices and principles. The attainment of the basic skills and techniques of drafting including use of drafting equipment, lettering, freehand, orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning and noting. Methods of reproducing, filing and storing drawings are studied, and the student is introduced to "working drawings".

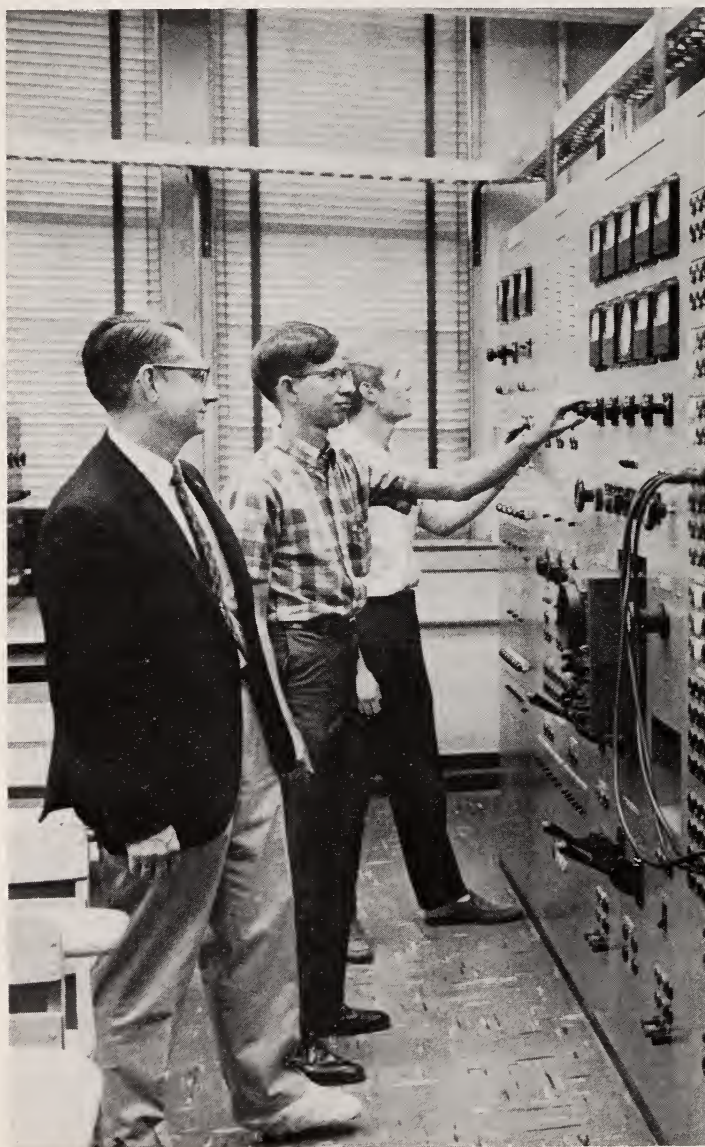
T-DFT 102 Technical Drafting II (2-4) 3
 A study of the application of orthographic projection principles to more complex drafting problems. Primary and secondary auxiliary views, simple and successive revolutions, sections, conventions and isometric and oblique pictorials are stressed. P. R. DFT 101.

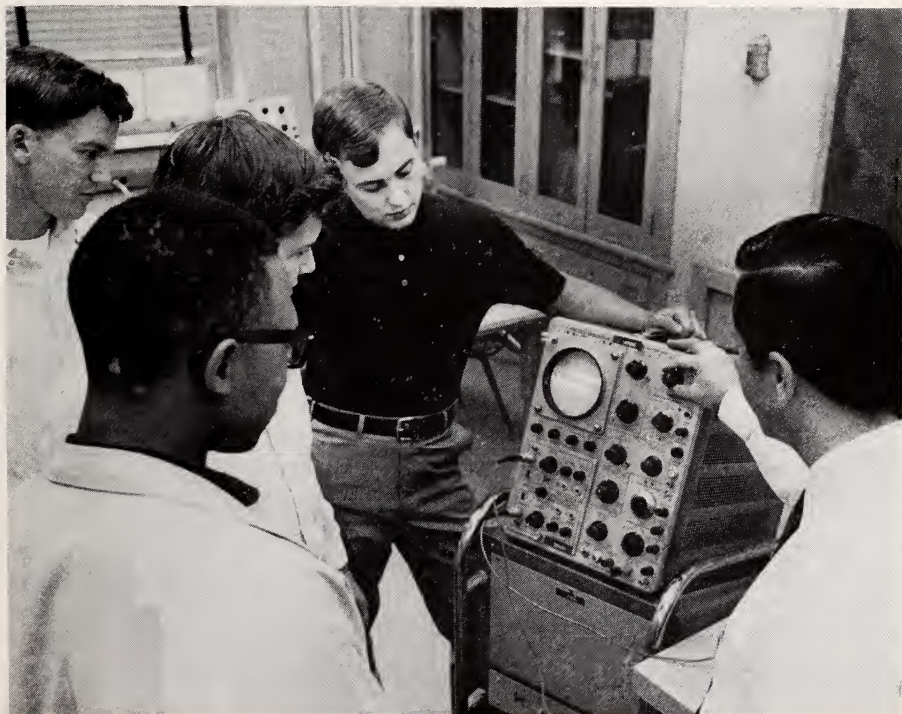
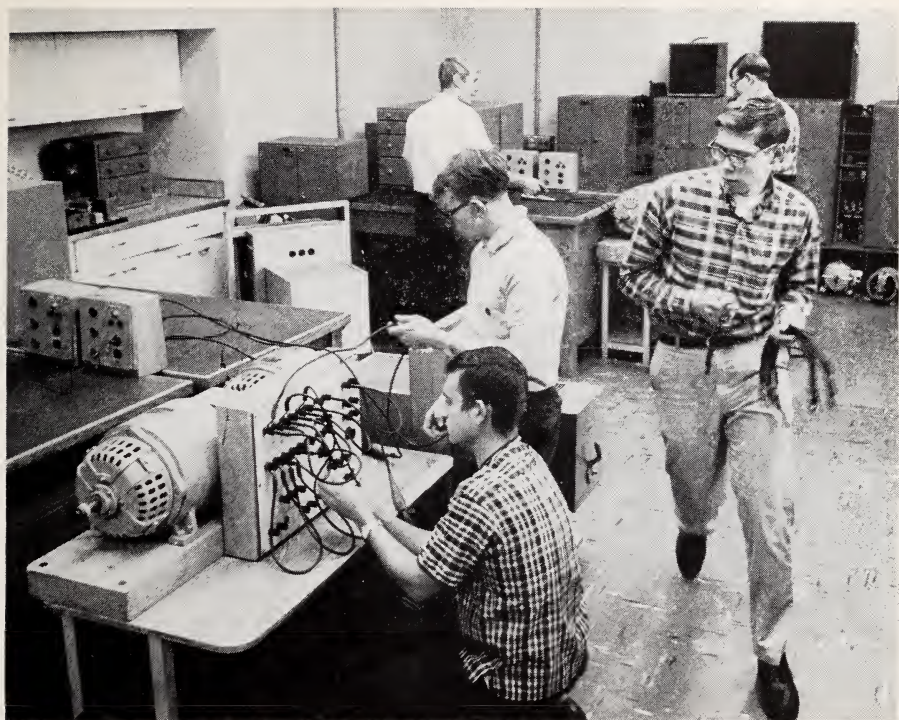
T-MAT 121 Numbering Systems and Boolean Algebra (4-0) 4

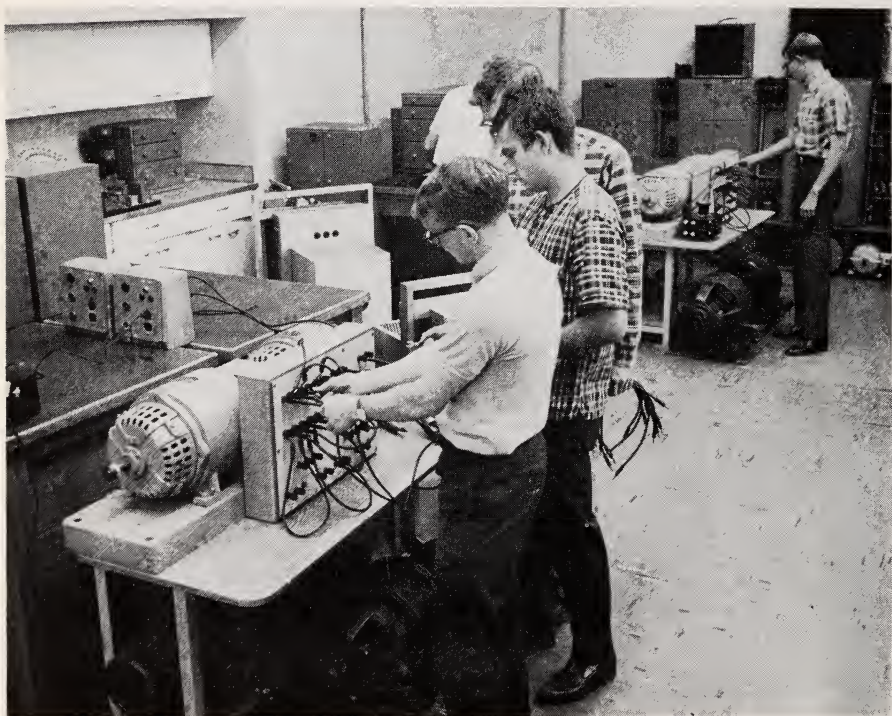
Topics include an introduction to numbering systems with bases other than ten, transformation from one system to another, and fundamental operations in systems other than the decimal. The fundamental postulates, theorems, functions and operations of Boolean Algebra are studied and applied to computer logic designs and switching circuits. The logic of circuit design is considered rather than the electronic components used.

T-EDP 101 Functional Wiring Principles (2-3) 3

The fundamental principles of control-panel wiring necessary to perform basic machine functions of a unit record installation. Laboratory experiments on the keypunch, verifier, sorter, interpreter, reproducing, punch, collator and accounting machine support the theoretical aspect of the course.







MECHANICAL ENGINEERING TECHNOLOGY**Drafting and Design Option****Manufacturing Option**

There are more than fifty-two different types of occupations in which a graduate of either of these two options of Mechanical Engineering Technology may be employed. Many of these occupations are closely related to management in industry and can provide paths to rewarding jobs.

The Mechanical Engineering Technician with a Drafting and Design option is well trained in drafting, the language of industry. He will use his knowledge to produce plans and specifications which describe the processes and procedures by which products are made and the materials from which they are made.

The Mechanical Engineering Technician with a Manufacturing option is skilled in the production efficiency areas of industry. He will work in manufacturing areas such as quality control, inventory and materials control, process planning, time and motion study, materials handling and cost estimating.

Graduates in either of these two options of Mechanical Engineering Technology may become salesmen or company representatives. Job titles such as liaison engineer, sales engineer, field engineer or factory representative may be assigned them because of their training.

DESCRIPTION OF CURRICULUM

The student in either the Drafting and Design Option or the Manufacturing Option of Mechanical Engineering Technology receives a well-balanced program. The instruction, consisting of both laboratory and classroom experiences, includes courses in drafting, machine processes, hydraulics and pneumatics, applied mechanics, strength of materials, metallurgy and thermodynamics.

The student who selects the Drafting and Design Option specializes in courses such as design, drafting, jigs and fixtures, mechanisms and die design.

The Manufacturing Option student specializes in planning courses such as process planning, time and motion study, production planning, inspection and quality control, plant layout and materials handling.

SUGGESTED SEQUENCE OF REQUIRED COURSES**Course Title**

			Hours Per	Week	Quarter
			Class	Lab.	Hours Credit
FIRST QUARTER					
T-ENG	101	Communications I	3	0	3
T-MAT	101	Technical Mathematics I	5	0	5
T-PHY	101	Physics I: Properties of Matter	3	2	4
DFT	101	Technical Drafting I	2	4	3
T-MEC	101	Machine Processes I	2	3	3
T-ENG	100	Speed Reading	2	0	2
			17	9	20
SECOND QUARTER					
T-ENG	102	Communications II	3	0	3
T-MAT	102	Technical Mathematics II	5	0	5
T-PHY	102	Physics II: Work, Energy, Power	3	2	4
T-DFT	102	Technical Drafting II	2	4	3
T-MEC	102	Machine Processes II	2	3	3
			15	9	18

THIRD QUARTER

T-ENG	103	Communications III	3	0	3
T-MAT	103	Technical Mathematics III	5	0	5
T-PHY	103	Physics III: Electricity	3	2	4
T-PHY	106	Applied Mechanics	5	0	5
			16	2	17

FOURTH QUARTER

SPH	101	Oral Communication	3	0	3
DFT	204	Descriptive Geometry	2	4	4
T-CIV	216	Strength of Materials	5	0	5
T-MEC	210	Physical Metallurgy I	3	2	4
T-MEC	219	Thermodynamics	3	0	3
			16	6	19

FIFTH QUARTER

T-PSY	206	Applied Psychology	3	0	3
ECO	201	Economics I	3	0	3
T-MEC	235	Hydraulics and Pneumatics	3	2	4
T-MEC	211	Physical Metallurgy II	3	2	4
T-MAT	208	Compound Angles	3	0	3
			15	4	17

SIXTH QUARTER (Drafting and Design Option)

T-DFT	205	Design Drafting	5	9	8
T-DFT	212	Jig and Fixture Design	2	3	3
T-DFT	211	Mechanisms	3	2	4
T-DFT	208	Die Design	3	3	4
			13	17	19

SIXTH QUARTER (Manufacturing Option)

T-MEC	201	Process Planning	2	3	3
T-ISC	203	Time and Motion Study	3	4	5
T-ISC	209	Plant Layout and Materials Handling	3	4	5
T-MEC	213	Production Planning	2	3	3
T-ISC	202	Inspection and Quality Control	3	2	4
			13	16	20

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

T-ENG 101 Communications I (3-0) 3

This course is designed to aid the student in the improvement of writing and self-expression with emphasis on practical application of grammar and sentence structure. Vocabulary building, as well as a functional approach to writing, is stressed by use of projected materials with emphasis on the mechanics of construction in all areas of good English.

T-MAT 101 Technical Mathematics I (5-0) 5

The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinate system and fundamental trigonometric concepts and operations are introduced. C. R. High school geometry or MAT 033.

T-ENG 100 Speed Reading (2-0) 2

The approach includes a concentrated effort to improve the student's ability to comprehend that which he reads with greater rapidity and accurateness. Special machines are used to broaden the span of sentence recognition, to increase eye coordination, and to improve the common faults of a slow reader.

- T-PHY 101 Physics I: Properties of Matter** (3-2) 4
A fundamental course covering several basic principles of physics. The divisions included are solids and their characteristics, liquids in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these topics are part of this course.
- DFT 101 Technical Drafting I** (2-4) 3
An introduction to drafting and design practices and principles. The attainment of the basic skills and techniques of drafting including use of drafting equipment, lettering, freehand, orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning and noting. Methods of reproducing, filing and storing drawings are studied, and the student is introduced to "working drawings".
- T-MEC 101 Machine Processes I** (2-3) 3
An introductory course designed to acquaint the student with the basic hand tools, safety procedures and machine processes of our modern industry. It will include a study of measuring instruments, characteristics of metals and cutting tools. The student will become familiar with the lathe family of machine tools by performing selected operations such as turning, facing, threading, drilling, boring and reaming.
- T-ENG 102 Communications II** (3-0) 3
Designed to aid the student in continuing improvement of writing and self-expression in business and composition format. Emphasis is placed on the sentence, paragraph and whole composition. This course is intended to stimulate students in applying the basic principles of English. P. R. T-ENG 101.
- T-MAT 102 Technical Mathematics II** (5-0) 5
A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions. P. R. T-MAT 101.
- T-PHY 102 Physics II: Work, Energy, Power** (3-2) 4
The major areas covered in this course are work, energy and power. Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurement and their applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas. P. R. T-PHY 101, T-MAT 101.
- T-DFT 102 Technical Drafting II** (2-4) 3
A study of the application of orthographic projection principles to more complex drafting problems. Primary and secondary auxiliary views, simple and successive revolutions, sections, conventions and isometric and oblique pictorials are stressed. P. R. DFT 101.
- T-MEC 102 Machine Processes II** (2-3) 3
A study of advanced operations on lathe, drilling, boring and reaming machines. A study of milling machine theory and practice through study of the types of milling machines, cutters, jig and fixture devices, and the accessories used in a modern industrial plant. Safety in the operational shop is stressed. P. R. T-MEC 101.
- T-ENG 103 Communications III** (3-0) 3
The fundamental concepts of English are utilized as a background for the organization and techniques of modern report and technical report writing. This course offers exercises in developing typical reports, letters, memoranda and resumes. Writing techniques of structure and syntax are emphasized. At the end of the term each student is required to prepare a report pertaining to his chosen curriculum. P. R. T-ENG 102.
- T-MAT 103 Technical Mathematics III** (5-0) 5
The fundamental concepts of analytic geometry and differential and integral calculus are introduced. Topics included are graphing techniques, geometric and algebraic interpretation of the derivative, differentials, rate of change, the integral and basic integration techniques. P. R. T-MAT 102.
- T-PHY 103 Physics III: Electricity** (3-2) 4
Basic theories of electricity, types of electricity, methods of producing, transmitting and transforming electricity. Electron theory, electricity by chemical action, electricity by friction, electricity by magnetism, induction, voltage, amperage, resistance, horsepower, wattage and transformers are major parts of the course. P. R. T-PHY 101, T-MAT 102.

- T-PHY 106 Applied Mechanics** (5-0) 5
The concepts and principles of statics and dynamics are studied. Parallel concurrent and nonconcurrent force systems in coplanar and noncoplanar situations. concepts of centroids and center of gravity, moments of inertia, fundamentals of kinetics and kinematics of velocity and motion are important topics. P. R. T-PHY 102; C. R. T-MAT 102.
- SPH 101 Oral Communication** (3-0) 3
Principles of effective communication with emphasis upon self-expression in conversation, interviewing, understanding, listening, questioning, conferences and vocabulary. P. R. T-ENG 101.
- DFT 204 Descriptive Geometry** (2-4) 4
Graphic analysis of space problems involving points, lines, planes, connectors and combinations of these. Practical design problems are stressed with analytical verification when applicable. Visualization is stressed on every problem. P. R. T-DFT 102, T-MAT 102.
- T-CIV 216 Strength of Materials** (5-0) 5
This course emphasizes fundamental stress and strain relationship, torsion, shear and bending moments, diagrams, stresses and deflections in beams, and introduction to statically indeterminate beams, columns and combined stresses. P. R. T-CIV 114 or T-PHY 106.
- T-MEC 210 Physical Metallurgy I** (3-2) 4
An introductory study of the basic properties of metals and alloys, including analysis of the structure of metals and alloys, atomic structure, nuclear structure and nuclear reactions, solid (crystalline) structure, methods of designating crystal planes, liquid and vapor phases, phase diagrams and alloy systems. P. R. T-PHY 101.
- T-MEC 219 Thermodynamics** (3-0) 3
An introductory study of the changes in which energy is involved. Topics studied include the laws of thermodynamics, the general energy equation, the simple energy equation, and the nomenclature and understanding of various processes and cycles. P. R. T-PHY 102; C. R. T-MAT 103.
- T-PSY 206 Applied Psychology** (3-0) 3
A study of the principles of psychology which will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organizations; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- T-MEC 235 Hydraulics and Pneumatics** (3-2) 4
A course in the basic theories of hydraulic and pneumatic systems, emphasizing combinations of systems in various circuits, basic designs and functions of circuits and motors, controls, electrohydraulic servomechanisms, plumbing, filtration, accumulators and reservoirs. P. R. T-PHY 103, T-MAT 103.
- T-MEC 211 Physical Metallurgy II** (3-2) 4
Properties of metals and alloys, the reactions of metals, diffusion, carburizing, metal bending, homogenization, recrystallization and grain growth, age hardening, nitriding, internal oxidation, heat treatment of steel, laboratory experiments and demonstrations. P. R. T-MEC 210.
- T-MAT 208 Compound Angles** (3-0) 3
A special study of solid geometrical figures which involves the relations of angles and sides of triangles that lie in different planes. The fundamental principles of compound angles are developed for the five basic types of solid figures, and these principles are used to obtain solutions in solid trigonometry. Practical application of theory is stressed throughout the course, with emphasis on angular

hole boring, form cutting, grinding, machining of jig and fixture parts and tools and dies on angle plates. The course provides a combination of theory and practice to enable the student to find the proper general approach to compound angle problems in industry. P. R. T-MAT 102.

T-DFT 205 Design Drafting (5-9) 8

A course in machine design which stresses the design of machine members by strength of material calculations. Principles emphasized include design sketching and drawing, layout drafting, detailing from layouts, production drawings and simplified drafting practices. Research is done in solving design problems through use of manufacturer's catalogs, manuals, periodicals and laboratory experiments. P. R. T-CIV 216, T-MEC 211.

T-DFT 212 Jig and Fixture Design (2-3) 3

Commercial standards, principles, practices and tools of jig and fixture design are studied. The course includes individual project and design work to acquaint students with various types of jigs and fixtures and their design. P. R. T-DFT 102, T-MEC 210, T-CIV 216.

T-DFT 211 Mechanisms (3-2) 4

Mathematical and drafting-room solutions of problems involving the motion principles of machine elements. A study of motions of linkages, belts, chains and gears and displacements, velocities and accelerations of points and lines within these mechanisms. Layout methods for designing cams, belts, pulleys, gears and gear trains and linkages are also studied. P. R. T-DFT 102, T-MAT 102, T-PHY 102.

T-DFT 208 Die Design (2-3) 3

This course is designed to give the student a thorough knowledge of die design drafting techniques, presses and their operation, the theory and formulas for cutting, drawing and forming sheet metal, and the various types of die construction and die details. P. R. T-DFT 102, T-MEC 211, T-CIV 216.

T-MEC 201 Process Planning (2-3) 3

This course applies theory in process planning. The student puts all his previously gained knowledge of manufacturing processes to practical use by solving actual process-planning problems. Emphasis is placed on the proper selection of process and machinery in the light of the quantities involved, with possible alternate methods being explored. The basic concept of making the best possible product in the shortest period of time and in the most economical way is stressed throughout the course. P. R. T-MEC 102, T-DFT 102, T-MAT 101.

T-ISC 203 Time and Motion Study (3-4) 5

A course in the types of methods studies and their application. Process charts, analysis sheets, time study, work simplification, skill and effort rating are considered.

T-ISC 209 Plant Layout and Materials Handling (3-4) 5

A practical study of factory planning with emphasis on the most efficient arrangements of work areas to achieve lower manufacturing costs. Layouts for small and medium-sized plants, layout fundamentals, selection of production equipment and materials handling equipment are studied. The effective management of men, money and materials in a manufacturing operation is emphasized. P. R. T-DFT 102, T-MEC 102.

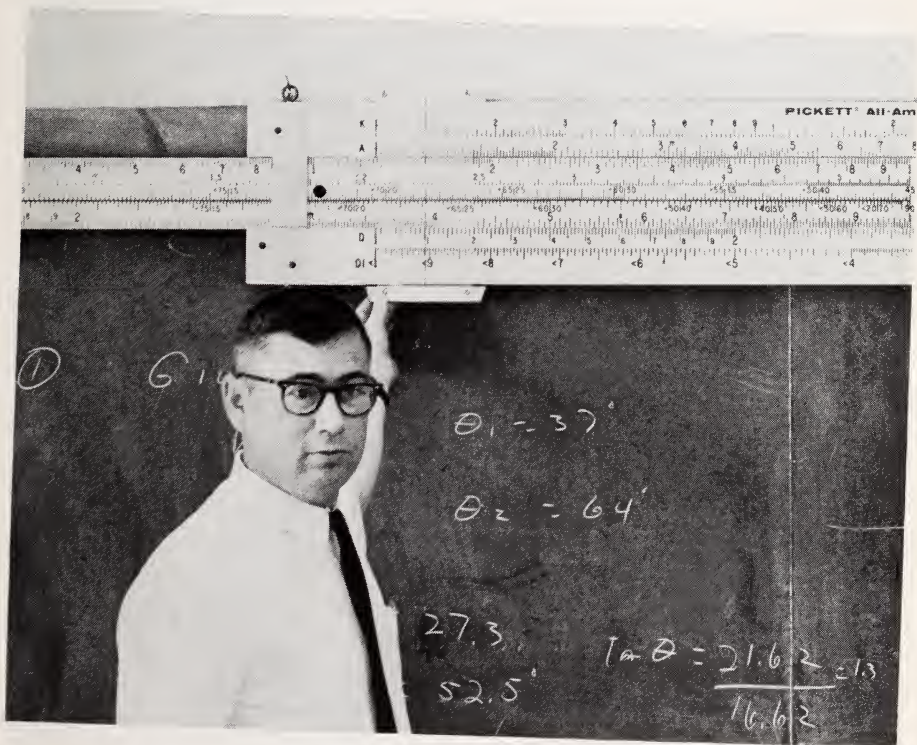
T-MEC 213 Production Planning (2-3) 3

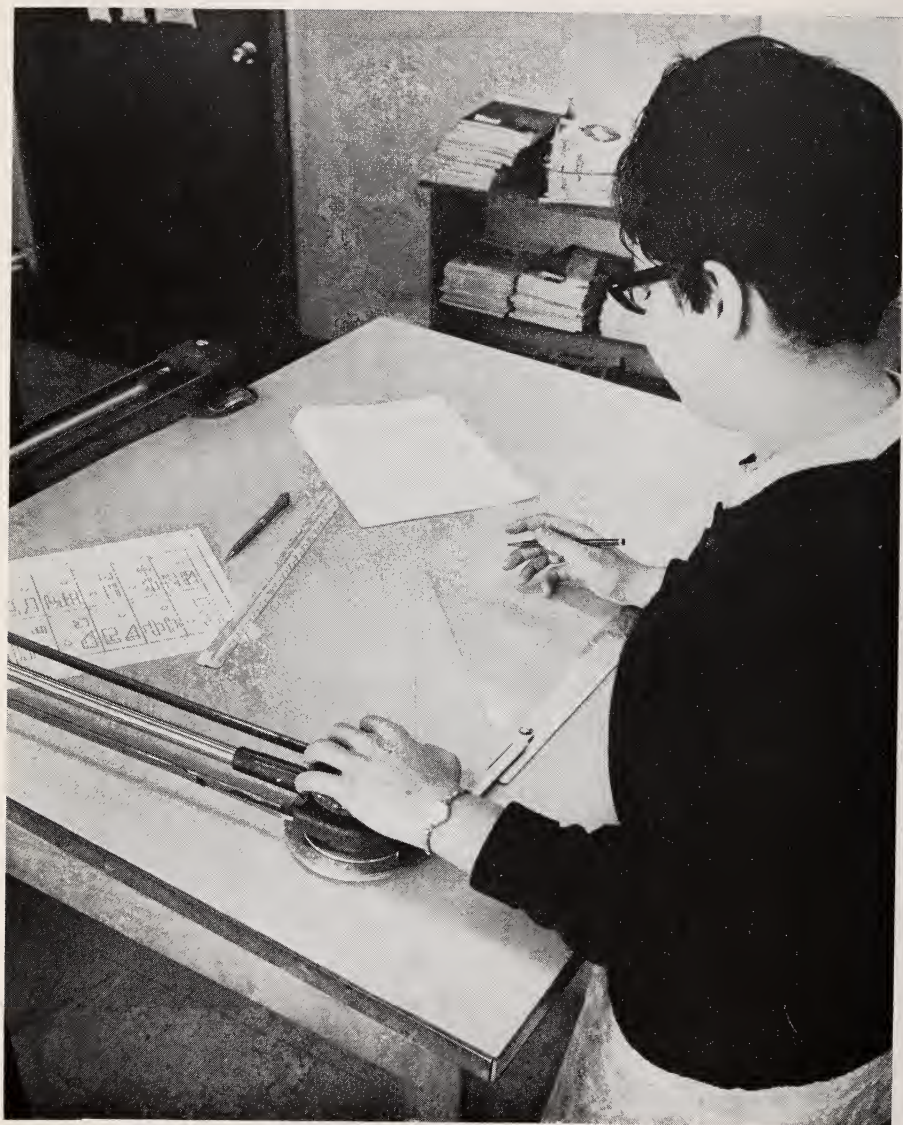
Day-to-day plant direction including forecasting, product planning and control, scheduling, dispatching, routing and inventory control. Case histories are discussed in the classroom, and courses of corrective action are developed. C. R. T-MEC 201; P. R. T-DFT 102, T-MAT 101.

T-ISC 202 Inspection and Quality Control (3-2) 4

The principles and techniques of quality control and cost saving. Organization and procedure for efficient quality control. Functions, responsibilities, structure, costs, reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control and tests for significance. P. R. T-MAT 103, T-MEC 102; C. R. T-MEC 201, T-MEC 213.







SECRETARIAL SCIENCE CURRICULA

Executive Secretary

Legal Secretary

Medical Secretary

EXECUTIVE SECRETARY

Secretaries are valuable to business, industry, government and the professions. The demand for good secretaries far exceeds the supply; thus, education in this occupational field provides many opportunities to work in pleasant and attractive surroundings on interesting things for appreciative people.

The private secretary is the boss's right hand and must bring to the position, along with basic skills of shorthand, typing and English, an understanding of office procedure, accounting, human relations and the place of business and industry in the American economic system.

DESCRIPTION OF CURRICULUM

The degree Associate in Applied Science in Executive Secretarial Science will be awarded upon successful completion of this curriculum. The program of studies provides for classes in shorthand, typing, English, business correspondence, business law and related areas.

SUGGESTED SEQUENCE OF REQUIRED COURSES FOR EXECUTIVE SECRETARY

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIRST QUARTER					
*T-ENG	100	Speed Reading	2	0	2
T-ENG	101	Communications I	3	0	3
*T-BUS	102	Elementary Typewriting I (or elective)	2	3	3
T-MAT	110	Business Mathematics I	3	0	3
T-BUS	101	Introduction to Business	3	0	3
*T-BUS	106	Shorthand I (or elective)	3	2	4
			16	5	18
SECOND QUARTER					
*T-ENG	800	Spelling	2	0	2
ENG	101	English Composition I	3	0	3
T-BUS	103	Elementary Typewriting II	2	3	3
T-MAT	111	Business Mathematics II	3	0	3
T-BUS	107	Shorthand II	3	2	4
ECO	201	Economics I	3	0	3
			16	5	18
THIRD QUARTER					
ENG	102	English Composition II	3	0	3
T-BUS	104	Intermediate Typewriting I	2	3	3
T-BUS	108	Shorthand III	3	2	4
T-PSY	112	Personality Development	3	0	3
BUS	120	Accounting I	5	2	6
			16	7	19

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FOURTH QUARTER					
SPH	101	Oral Communication	3	0	3
T-BUS	206	Dictation and Transcription I	3	2	4
HIS	153	American History III	3	0	3
T-BUS	204	Intermediate Typewriting II	2	3	3
T-BUS	112	Filing	1	2	2
T-BUS	115	Business Law I	3	0	3
			15	7	18
FIFTH QUARTER					
T-BUS	110	Office Machines	2	2	3
T-EDP	104	Introduction to Data Processing	3	2	4
T-ENG	206	Business Communication	3	0	3
T-BUS	207	Dictation and Transcription II	3	2	4
T-BUS	205	Advanced Typewriting	2	3	3
			13	9	17
SIXTH QUARTER					
T-BUS	214	Secretarial Procedures	3	0	3
T-BUS	208	Dictation and Transcription III	3	2	4
T-BUS	271	Office Management	3	0	3
T-BUS	210	Advanced Office Machines	2	2	3
		Elective	3	0	3
			14	4	16

*Not required if student can pass proficiency test in this area.

LEGAL SECRETARY

The legal secretary is an essential worker in any law office. The duties of a legal secretary may consist of taking dictation and transcribing letters, briefs and reports, meeting office callers and screening telephone calls, filing and scheduling appointments. The legal secretary needs to have not only the usual secretarial skills but also a knowledge of legal terminology and procedures. Opportunities for the graduate exist in a variety of secretarial positions in the legal profession. Positions are also available in federal, state and local governmental agencies.

DESCRIPTION OF CURRICULUM

The curriculum is designed to offer the necessary secretarial skills in typing, dictation, transcription and filing. This training in secretarial skills is supplemented by related courses in mathematics, accounting, business laws and legal terminology. The degree Associate in Applied Science in Legal Secretarial Science will be awarded upon successful completion of the curriculum.

SUGGESTED SEQUENCE OF REQUIRED COURSES FOR LEGAL SECRETARY

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIRST QUARTER					
*T-ENG	100	Speed Reading	2	0	2
T-ENG	101	Communications I	3	0	3

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
SECOND QUARTER					
*T-BUS	102	Elementary Typewriting I (or elective)	2	3	3
T-MAT	110	Business Mathematics I	3	0	3
T-BUS	101	Introduction to Business	3	0	3
*T-BUS	106	Shorthand I (or elective)	3	2	4
			16	5	18
*T-ENG	800	Spelling	2	0	2
ENG	101	English Composition I	3	0	3
T-BUS	103	Elementary Typewriting II	2	3	3
T-MAT	111	Business Mathematics II	3	0	3
T-BUS	107	Shorthand II	3	2	4
ECO	201	Economics I	3	0	3
			16	5	18
THIRD QUARTER					
T-PSY	112	Personality Development	3	0	3
ENG	102	English Composition II	3	0	3
T-BUS	104	Intermediate Typewriting I	2	3	3
BUS	120	Accounting I	5	2	6
T-BUS	108	Shorthand III	3	2	4
			16	7	19
FOURTH QUARTER					
T-BUS	117	Legal Terminology and Vocabulary I	1	2	2
T-BUS	204	Intermediate Typewriting II	2	3	3
T-BUS	115	Business Law I	3	0	3
SPH	101	Oral Communication	3	0	3
T-BUS	112	Filing	1	2	2
T-BUS	206	Dictation and Transcription I	3	2	4
			13	9	17
FIFTH QUARTER					
T-BUS	118	Legal Terminology and Vocabulary II	1	2	2
T-ENG	206	Business Communication	3	0	3
T-BUS	216	Advanced Legal Typewriting	2	3	3
T-BUS	116	Business Law II	3	0	3
T-BUS	110	Office Machines	2	2	3
T-BUS	207	Dictation and Transcription II	3	2	4
			14	9	18
SIXTH QUARTER					
T-BUS	214	Secretarial Procedures	3	0	3
T-BUS	217	Legal Environment of Business	3	0	3
T-BUS	271	Office Management	3	0	3
HIS	153	American History III	3	0	3
T-BUS	208	Dictation and Transcription III	3	2	4
T-BUS	210	Advanced Office Machines	2	2	3
			17	4	19

*Not required if student can pass proficiency test in this area.

MEDICAL SECRETARY

The demand for well qualified medical secretaries in an ever-expanding medical profession is becoming acute. The purpose of this curriculum is to outline a training program that will provide specialized

training in the accepted secretarial procedures required by the medical profession. The duties of a medical secretary may consist of taking dictation and transcribing letters, memoranda and reports, meeting office callers and screening telephone calls, filing, and scheduling appointments. The graduate may enter a secretarial position in physicians' offices, private and public hospitals, public health agencies, and drug and pharmaceutical companies.

DESCRIPTION OF CURRICULUM

The Medical Secretary curriculum is designed to offer the student the necessary secretarial skills for employment in medical or health-related agencies. The graduate will have a knowledge of medical terminology and skills in typing, taking dictation and accurate transcription. Special training in secretarial subjects will be supplemented by related courses in mathematics, accounting and personality development. The degree Associate in Applied Science in Medical Secretarial Science will be awarded upon successful completion of the curriculum.

SUGGESTED SEQUENCE OF REQUIRED COURSES FOR MEDICAL SECRETARY

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIRST QUARTER					
*T-ENG	100	Speed Reading	2	0	2
T-ENG	101	Communications I	3	0	3
*T-BUS	102	Elementary Typewriting I (or elective)	2	3	3
T-MAT	110	Business Mathematics I	3	0	3
T-BUS	101	Introduction to Business	3	0	3
*T-BUS	106	Shorthand I (or elective)	3	2	4
			16	5	18
SECOND QUARTER					
*T-ENG	800	Spelling	2	0	2
ENG	101	English Composition I	3	0	3
T-BUS	103	Elementary Typewriting II	2	3	3
T-MAT	111	Business Mathematics II	3	0	3
T-BUS	107	Shorthand II	3	2	4
ECO	201	Economics I	3	0	3
			16	5	18
THIRD QUARTER					
ENG	102	English Composition II	3	0	3
T-BUS	104	Intermediate Typewriting I	2	3	3
T-BUS	108	Shorthand III	3	2	4
T-PSY	112	Personality Development	3	0	3
BUS	120	Accounting I	5	2	6
			16	7	19
FOURTH QUARTER					
T-BUS	113	Medical Terminology and Vocabulary I	1	2	2
BIO	110	Human Anatomy and Physiology I	4	2	5
T-BUS	204	Intermediate Typewriting II	2	3	3
T-BUS	218	Medical Law	1	2	2
T-BUS	112	Filing	1	2	2
T-BUS	206	Dictation and Transcription I	3	2	4
			12	13	18

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIFTH QUARTER					
T-BUS	114	Medical Terminology and Vocabulary II	1	2	2
T-ENG	206	Business Communication	3	0	3
T-BUS	207	Dictation and Transcription II	3	2	4
T-BUS	209	Advanced Medical Typewriting	2	3	3
T-BUS	219	Credit Problems and Procedures	1	2	2
T-BUS	110	Office Machines	2	2	3
			12	11	17
SIXTH QUARTER					
SPH	101	Oral Communication	3	0	3
T-BUS	214	Secretarial Procedures	3	0	3
T-BUS	208	Dictation and Transcription III	3	2	4
T-BUS	211	Medical Transcription	2	2	3
T-BUS	271	Office Management	3	0	3
T-BUS	247	Business Insurance	3	0	3
			17	4	19

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

T-ENG 100 Speed Reading (2-0) 2

The approach includes a concentrated effort to improve the student's ability to comprehend that which he reads with greater rapidity and accurateness. Special machines are used to broaden the span of sentence recognition, to increase eye coordination, and to improve the common faults of a slow reader.

T-ENG 101 Communications I (3-0) 3

This course is designed to aid the student in the improvement of writing and self-expression with emphasis on practical application of grammar and sentence structure. Vocabulary building, as well as a functional approach to writing, is stressed by use of projected materials with emphasis on the mechanics of construction in all areas of good English.

T-BUS 102 Elementary Typewriting I (2-3) 3

An introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation and manuscripts.

T-MAT 110 Business Mathematics I (3-0) 3

A study of fundamental processes: addition, subtraction, multiplication and division of whole numbers and common and decimal fractions. The manipulation and application of per cent, essentials of algebraic operations and per cents as applied to the income statement are also studied. P. R. Satisfactory score on entrance math test.

T-BUS 101 Introduction to Business (3-0) 3

A comprehensive introduction to business operations and organization with an analysis of forms of business ownership, business functions and problems of management. Choosing a location and product line, design, production, sales and personnel staffing are topics studied. (To be taken in first possible quarter.)

T-BUS 106 Shorthand I (3-2) 4

A beginning course in the theory and practice of reading and writing shorthand. The emphasis is on phonetics, penmanship, word families, brief forms and phrases.

T-ENG 800 Spelling (2-0) 2

This course is designed to increase the student's proficiency in spelling, word division and word usage and to train him in the intelligent use of the dictionary.

- ENG 101 English Composition I** (3-0) 3
Intensive study of and practice in effective expository writing, emphasizing principles of grammar, punctuation and organization.
- T-BUS 103 Elementary Typewriting II** (2-3) 3
Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence and business forms. Speed requirement, 40 words per minute for five minutes. P. R. T-BUS 102 or the equivalent.
- T-MAT 111 Business Mathematics II** (3-0) 3
A continuation of mathematics applied to business. An introduction to statistical methods, simple and compound interest, discounts, debts extinction and expense distribution calculations. P. R. T-MAT 110.
- T-BUS 107 Shorthand II** (3-2) 4
A continued study of theory with greater emphasis on dictation and elementary transcription. P. R. T-BUS 106 or the equivalent.
- ECO 201 Economics I** (3-0) 3
Basic economics with attention to central problems of price, competition and money; supply and demand; business organizations; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.
- ENG 102 English Composition II** (3-0) 3
Continuation of the study of composition, emphasizing interpretation and evaluation of expository, narrative and creative writing. P. R. ENG 101.
- T-BUS 104 Intermediate Typewriting I** (2-3) 3
Emphasis is placed on production typing problems and speed building. Attention is given to the development of the student's ability to function as an expert typist; producing mailable copies. The production units are tabulation, manuscripts, correspondence and business forms. Speed requirement, 50 words per minute for five minutes. P. R. T-BUS 103.
- T-BUS 108 Shorthand III** (3-2) 4
Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription. P. R. T-BUS 107.
- T-PSY 112 Personality Development** (3-0) 3
This course is designed to help the student recognize the importance of the physical, intellectual, social and emotional dimensions of personality. Emphasis is placed on grooming and methods of personality improvement.
- BUS 120 Accounting I** (5-2) 6
Introductory accounting principles designed to provide an understanding of accounting data. Accumulating, summarizing, analyzing and reporting information about services and mercantile enterprises are emphasized. Individual ownerships and partnerships are the business organizations stressed. Also included is a study of payrolls and payroll taxes. C. R. T-MAT 110.
- SPH 101 Oral Communication** (3-0) 3
Principles of effective communication with emphasis upon self-expression in conversation, interviewing, understanding, listening, questioning, conferences and vocabulary. P. R. T-ENG 101.
- T-BUS 206 Dictation and Transcription I** (3-2) 4
This course develops the skills of taking dictation and transcribing at the typewriter materials appropriate to the course of study. Topics include a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. A minimum dictation rate on new materials of 100 words per minute is required for five minutes. P. R. T-BUS 108.
- HIS 153 American History III** (3-0) 3
The conclusion of the survey of the American development from 1900 to the present.

- T-BUS 204 Intermediate Typewriting II** (2-3) 3
This course is designed to increase the student's speed and accuracy on straight copy and production typing and review the fundamental principles of various types of production work, such as: correspondence, manuscript and tabulation. P. R. T-BUS 104.
- T-BUS 112 Filing** (1-2) 2
The fundamentals of indexing and filing. Theory and practice are combined by the use of miniature letters, filing boxes and guides. Topics studied include alphabetic name, geographic, subject and numeric filing.
- T-BUS 113 Medical Terminology and Vocabulary I** (1-2) 2
A study of the structure of medical words and terms. Emphasis is placed on spelling and defining commonly-used prefixes, suffixes, root words and their combining forms.
- T-BUS 117 Legal Terminology and Vocabulary I** (1-2) 2
An intensive course of study in legal terminology and vocabulary, including definitions, usage, derivations and spelling.
- BIO 110 Human Anatomy and Physiology I** (4-2) 5
A study of the structure and normal functions of the human body and its systems with emphasis upon the inter-related functions of various parts and systematic processes in the development of basic physiological principles.
- T-BUS 115 Business Law I** (3-0) 3
A general course to acquaint the student with our court system and the fundamentals of business law on contracts, negotiable instruments and agency. Uniform Commercial Code is considered wherever applicable.
- T-BUS 218 Medical Law** (1-2) 2
A course designed to acquaint the student with the legal aspects of medical practice acts, the relationship of physician and patient, professional liabilities, and types of medical practice.
- T-BUS 114 Medical Terminology and Vocabulary II** (1-2) 2
A continuation of T-BUS 113 with greater emphasis on an understanding of terminology and its use in the medical office. P. R. T-BUS 113.
- T-BUS 118 Legal Terminology and Vocabulary II** (1-2) 2
This course is designed to further increase the student's vocabulary in word usage, spelling, pronunciation and definitions. P. R. T-BUS 117.
- T-BUS 110 Office Machines** (2-2) 3
A general survey of business and office machines. Students will receive training in techniques, processes, operation and application of ten-key adding machines, full keyboard adding machines and calculators.
- T-EDP 104 Introduction to Electronic Data Processing** (3-2) 4
The fundamental concepts and operational principles of data processing systems are presented as an aid in developing the basic knowledge prerequisite for a future detailed study of computer systems and programming. This course provides a general knowledge of computer systems, data processing terminology, computer applications, flow charting, types of computer instructions and programming in basic language.
- T-ENG 206 Business Communication** (3-0) 3
This course develops skills in techniques used in writing business communications. Emphasis is placed on writing effective letters and reports. Action-getting sales letters and letters involving credit, collections, adjustments, complaints, orders, acknowledgements and remittances are covered. P. R. T-ENG 101, T-BUS 102 or equivalent.
- T-BUS 207 Dictation and Transcription II** (3-2) 4
Covering materials appropriate to the course of study, the student develops the accuracy, speed and vocabulary which will enable her to meet the stenographic requirements of business and professional offices. A minimum dictation rate on new material of 110 words per minute. P. R. T-BUS 206.

- T-BUS 205 Advanced Typewriting** (2-3) 3
Emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and in typing projects that closely approximate the work appropriate to the field of study. These projects include review of letter forms, methods of duplication, statistical tabulation, and the typing of reports, manuscripts and legal documents. Speed requirement, 60 words per minute for five minutes. P. R. T-BUS 204.
- T-BUS 209 Advanced Medical Typewriting** (2-3) 3
Emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and typing projects that closely approximate the work appropriate to the field of study. These projects include hospital reports and case histories. P. R. T-BUS 204.
- T-BUS 216 Advanced Legal Typewriting** (2-3) 3
This course is designed to further develop individual production rates, with emphasis on the planning and typing of projects appropriate to the field of study. These projects include contracts, agreements and power of attorneys. P. R. T-BUS 204.
- T-BUS 116 Business Law II** (3-0) 3
A continuing study of business laws governing sales, bailments, partnerships, corporations, insurance and property. The Uniform Commercial Code is considered wherever applicable. P. R. T-BUS 115.
- T-BUS 219 Credit Procedures and Problems** (3-0) 3
The management of a credit department based on principles and practices in the extension of credit and collection of accounts. Federal and state laws pertaining to credit extension and collection are included.
- T-BUS 217 Legal Environment of Business** (3-0) 3
A study of the powers, policies, methods and procedures used by federal and state administrative agencies in promoting and regulating business enterprises. The course includes a consideration of the constitutional and statutory limitations on these commissions and judicial review of administrative action. P. R. T-BUS 116.
- T-BUS 214 Secretarial Procedures** (3-0) 3
This course is designed to acquaint the student with the responsibilities encountered by a secretary during the work day. These responsibilities include the following: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization and insurance claims.
- T-BUS 208 Dictation and Transcription III** (3-2) 4
Primarily a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. A minimum dictation rate on new material of 120 words per minute is required for five minutes. P. R. T-BUS 207.
- T-BUS 211 Medical Transcription** (2-2) 3
The student is required to complete production units on the typewriter from dictation-transcription machines of medical correspondence and documents such as case histories, articles, and hospital reports. P. R. T-BUS 110, T-BUS 104.
- T-BUS 271 Office Management** (3-0) 3
This course presents the fundamental principles and successful practices used in getting office work accomplished. Case problems are used in making effective solutions to office management problems. (To be taken during 5th or 6th quarter only.)
- T-BUS 210 Advanced Office Machines** (2-2) 3
Instruction is given to students in the operation of duplicating equipment and dictating and transcribing machines. P. R. T-BUS 110, T-BUS 104.
- T-BUS 247 Business Insurance** (3-0) 3
A presentation of the basic principles of risk insurance and their application. A survey of the various types of insurance is made. A detailed study is made of the basic insurance contracts, including endorsements, forms and clauses. P. R. T-BUS 116 or T-BUS 218.

Part Five

The Liberal Arts Program

Descriptions

of

Liberal Arts Courses

and

Curricula

Leading To The

Associate In Arts

Degree

THE TRANSFER-LIBERAL ARTS PROGRAM

I. Description of the Program

The rapid growth of population in the United States and the demand for education beyond the high school have resulted in increasing numbers of students seeking admission to colleges and universities throughout the nation. To help meet the needs of these students, community colleges, which offer the first two years of baccalaureate degree work, are being established in all sections of the country. Central Piedmont Community College, one of the community colleges in the North Carolina system, is dedicated to the task of assisting students toward their educational goals.

In the first two years of college, students secure a general education in areas of humanities, social studies, science and mathematics; in addition, they begin specialized work in their own particular fields of interest. It is the aim of Central Piedmont Community College to provide quality instruction in these areas for transfer credit to senior institutions. Central Piedmont Community College provides professional counseling and a faculty advisory system to help the student plan his program for transfer to the college or university of his choice.

II. General Information

The student should consult the general information brochure for general school policies. The following information is especially relevant to the program.

Admission

The student should forward, as early as possible in advance of the date of registration, an application and a high school transcript to the Office of Student Services. Transcripts of any completed college work should be received prior to registration. While students may be processed to the date of registration, an early application assures adequate time for processing and counseling.

Central Piedmont Community College follows an "open door" policy and does not impose restrictive standards for admission to the College. All degree curricula, however, require high school graduation or the equivalent. Before any student is permitted to register for classes leading to a degree, he must take the School and College Ability Test (SCAT), a mathematics test and an English test. A student with satisfactory scores will be permitted to enter the curriculum of his choice. When scores on the tests indicate a lack of readiness to commence college-level work, the student will be assigned to developmental courses or to the programmed learning laboratory.

Units of Credit and Course Descriptions

Central Piedmont Community College is on a quarter system. One unit of credit is equal to one class-hour meeting per week. In the section on course descriptions in subsequent pages, there appear the course number, the title of the course and the hours of credit for the course. The number of lecture hours and the number of laboratory hours are shown in parentheses. When the laboratory is required,

one credit hour will equal at least two hours of laboratory time, as appropriate to the course. The letters P.R. indicate the prerequisite. The letters C.R. indicate a corequisite of the course. Either may be waived by the Liberal Arts Dean.

Probation

If a student has a cumulative quality-point average of 2.0 or lower at the end of any quarter, he will be placed on probation and asked to report to his advisor for counseling. The counselor will attempt to identify the problems of the student, and he may direct the student to a program for which he is better qualified. (See the general information section for the minimum quality point average required at various stages of progress toward the Associate in Arts degree.)

Requirements for the Degree

The student must complete a minimum of ninety-six quarter hours of course work exclusive of physical education to qualify for the Associate Degree. The student must have a quality-point average of 2.0 (or "C") to be eligible for graduation.

The student is eligible for the Associate in Arts degree when he has completed the required ninety-six quarter hours for graduation, including the minimum hours in each area listed below.

Communications 9 Quarter Hours

English Composition 101, 102, 103
(Required of all students.)

Humanities 9 Quarter Hours

This requirement is met by a sequence in language or some combination of courses in the following areas: Literature, Philosophy, Art or Music.

Social Science 10 Quarter Hours

Biological Science, Physical Science
and Mathematics 20 Quarter Hours

The requirement is met by taking a minimum of two of the three fields. At least one year (ten hours) must be taken in a laboratory science, either biological or physical.

SAMPLE TWO-YEAR CURRICULA FOR LIBERAL ARTS AND CERTAIN PRE-PROFESSIONAL AREAS

NOTE: These are **sample** curricular patterns. They are not meant to be prescriptive for any particular student, nor are they minimum requirements. An individual student's schedule may vary from these modal patterns. Each student will structure his own curricular pattern in conference with his advisor. His high school background, scholastic aptitude, vocational goal and choice of a four-year college or university (to which he plans to transfer) will be considered as factors shaping his particular curricular design.

	Quarter Hours of Credit
Liberal Arts	
English Composition	9
World Civilization	10
Literature (ENG 201-202, or ENG 205-206)	10
Modern Language (through intermediate)	9 to 18
Mathematics 101-102*, or 110-120	10
Laboratory Science	20
Elective in Major	15
Free electives to complete 96 hours, exclusive of physical education	
Pre-Agriculture (and Forestry)	
English Composition	9
Mathematics (110 level and above)	15
History	10
Biology	15
Social Science Electives	10
Modern Language or Humanities	9 or 10
General Chemistry	15
Economics	9
Electives to complete 96 hours, exclusive of physical education	
Pre-Business and Public Administration	
English Composition	9
History	10
Psychology	5
Economics	9
Mathematics (through 110)	5, 10 or 15**
Laboratory Science	10**
Modern Language (through intermediate)	9
Accounting	12
Business Electives	9
Social Science electives to complete 96 hours exclusive of physical educ.	
Pre-Dental	
English Composition	9
World Civilization	10
Modern Language or Humanities	10
Mathematics (110 level and above)	10
General Chemistry	15
Organic Chemistry	12
Biological Sciences	10
Psychology	5
Electives to complete 96 hours exclusive of physical education	
Pre-Engineering	
English Composition	9
World Civilization	10
Humanities	10
Mathematics (110 level and above)	30
Technical Drafting	7
General Chemistry	15
General Physics	15
Economics	9
Pre-Journalism	
English Composition	9
History	10
American Government	5
Psychology	5
Economics	9
Mathematics	10
Laboratory Science	10
Modern Language (through intermediate)	9 to 18
Literature (ENG 201-202, or 205-206)	10
Speech	3
Social Science Electives	10
Free electives to complete 96 hours exclusive of physical education	

*Math 101-102 not applicable to mathematics major

**A total of 20 hours of mathematics and laboratory science is suggested.

Pre-Law

English Composition	9
Modern Language (through intermediate)	9 to 18
Laboratory Science	10
Mathematics	10
History	10
Political Science	15
Economics	9
Sociology	9
Speech	6
Psychology	5
Literature	5
Electives to complete 96 hours exclusive of physical education	

Pre-Medical

English Composition	9
World Civilization	10
Modern Language (through intermediate)	9 to 18
Mathematics (110 level and above)	10
General Chemistry	15
Organic Chemistry	12
Biological Sciences	20
General Psychology	5
Science electives to complete 96 hours exclusive of physical education	

Pre-Pharmacology (one year only, except under special advisement)

English Composition	9
World Civilization	10
Foreign Language (through intermediate)	9 to 18
Mathematics (110 level and above)	10
General Chemistry	15

Pre-Social Work

English Composition	9
World Civilization	10
Laboratory Science	10
Mathematics	10
Modern Language or Humanities	10
Speech	6
Sociology	10
Psychology	10
Political Science	10
Electives to complete 96 hours exclusive of physical education	

*****Pre-Teaching (Elementary)**

English Composition	9
World Civilization	10
Geography	5 to 10
Mathematics	10
Laboratory Science	10
Art	3 to 9
Music	3
American History	10
Political Science	5
Modern Language or Humanities	10
Introduction to Education	5
Educational Psychology	5
General Psychology	5
Electives to complete 96 hours exclusive of physical education	

Pre-Teaching (Secondary)

English Composition	9
World Civilization	10
American History	10
# Mathematics	10
# Laboratory Science	10
Speech	6
Modern Language or Humanities	10

Introduction to Education	5
General Psychology	5
Educational Psychology	5
Major electives to complete 96 hours, exclusive of physical education	

***Check catalog of senior institution to which student plans transfer upon graduation from CPCC. Requirements will vary.

#Math 101-102 will suffice for many non-math majors. However, persons planning to major in math or physical science should begin with Math 110.

Transfer of Credit

The community college advisory committee, including representatives of state-supported colleges and the University, has worked with the Department of Community Colleges and Central Piedmont Community College to assist in the development of curricula acceptable to the senior institutions of the state. Consequently, courses taken at Central Piedmont should transfer in grade and credit to the institution as applicable to the curriculum for which such courses were intended. The student should be able to transfer to the senior institution with junior status after completing two years of credit work at Central Piedmont. Counselors and faculty members are ready to assist the student in course selection. It is the responsibility of the student, however, to familiarize himself with the catalog of the senior institution to which he will transfer, and to make periodic checks of his progress while completing freshman and sophomore requirements.

EXPLANATION OF COURSE LISTINGS

Sample Course Listing

BUS 120 Accounting I F,W,S,SS (5-2) 6
The three capitalized letters and the number which follows (BUS 120) are the abbreviated designation used for the course (Accounting I). The F,W,S,SS indicate that the course is offered during the Fall, Winter, Spring and Summer Session Quarters each year. If the words "even" or "odd" had followed, the course would be held only every other year. The year offered is determined by the last digit in the year. This offering may be made in either day or evening classes.

The (5-2) means that the class has five hours of lecture and two hours of laboratory work per week. The "6" at the end indicates the number of credit hours for completion of the course.

II. DESCRIPTION OF COURSES BY DEPARTMENT

ACCOUNTING DEPARTMENT

Objectives — The accounting courses are designed to develop the student's knowledge and understanding of the fundamental and advanced principles and concepts of accounting; to develop manual skills in recording and in machine operation as needed on the job; and, to familiarize the student with the areas in which accounting is used, its importance in business, and the manner in which all areas of business depend on accounting records as a strong tool.

BUS 120	Accounting I	F,W,S,SS	(5-2)	6	Introductory accounting principles designed to provide an understanding of accounting data. Accumulating, summarizing, analyzing, and reporting information about service and mercantile enterprises are emphasized. Individual ownerships and partnerships are the business organizations stressed. Also included is a study of payrolls and payroll taxes.
BUS 121	Accounting II	F,W,S,SS	(5-2)	6	Emphasis is placed on recording, summarizing and interpreting data for management control rather than on bookkeeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems. The corporate form of business is studied. P. R. BUS 120.

BIOLOGY DEPARTMENT

Objectives — The biology curriculum is designed to prepare students for professional careers in the life sciences and related areas; to teach students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data and be thorough in considering all aspects of a problem; to impart knowledge of the fauna and flora of our region for aesthetic as well as functional usage; to understand the role of the life sciences in mastering environments; to help students recognize themselves as highly complex members of the living world for which they are responsible; to help students become more knowledgeable citizens, parents and leaders.

BIO 101	Biological Science	F,W,S,SS	(3-4)	5	A foundation course designed to introduce the fundamentals of biological sciences — principles and theories, the nature of matter, the organization of protoplasm, a brief survey of plant and animal kingdoms, metabolism, growth, reproduction, responsiveness, adaptation and evolution.
BIO 110	Human Anatomy and Physiology I	F,SS	(4-2)	5	A study of the structure and normal functions of the human body and its systems with emphasis upon the inter-related functions of various parts and systematic processes in the development of basic physiological principles.
BIO 111	Human Anatomy and Physiology II	W	(4-2)	5	A continuation of BIO 110. P. R. BIO 110.
BIO 120	General Botany	F,S	(3-4)	5	An introductory study of the structure, physiology, reproduction and taxonomy of green and non-green plants, and a survey of plant genetics and ecology. P. R. BIO 101.
BIO 130	General Zoology	F,W,S	(3-4)	5	A study of the chief groups of animals in evolutionary sequence and a survey of animal histology, physiology, homology, ecology and taxonomy. Laboratory studies of typical animal groups. P. R. BIO 101.
BIO 150	General Bacteriology (Microbiology)	S,SS	(4-2)	5	An introductory course in general bacteriology with a survey of microscopical plant and animal forms with emphasis upon the morphology, physiology and ecology of bacteria. The nature and activities of common micro-organisms of humans, soil, water, food and milk. P. R. BIO 101.

BIO 201	Introduction to Entomology	S	(3-4)	5	A basic course designed to cover the fundamentals of insect classification, development, food habits and controls. P. R. BIO 101.
BIO 210	Vertebrate Zoology	F	(3-4)	5	An introduction to the local vertebrate fauna with emphasis on life history, ecology, systematics and behavior. Includes principles of vertebrate anatomy, physiology, histology, embryology, classification and homology. P. R. BIO 130.
BIO 220	General Ecology	SS	(3-4)	5	A study of the structure and function of nature. Emphasis is placed upon energy flow, biogeochemical cycles, relationships, habitats and economic importance of organisms. P. R. BIO 120, BIO 130.

DRAFTING DEPARTMENT

Objectives — The drafting curriculum is designed to develop the student's knowledge and understanding of the fundamental principles and concepts of drafting; to develop manual skills in drawing and using drafting equipment: to familiarize the student with the areas in which drafting is used, its importance in industry, and the manner of its use.

DFT 101	Technical Drafting I	F,W,S,SS	(2-4)	3	An introduction to drafting and design practices and principles. The attainment of the basic skills and techniques of drafting including use of drafting equipment, lettering, freehand, orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning and noting. Methods of reproducing, filing and storing drawings are studied, and the student is introduced to "working drawings".
DFT 204	Descriptive Geometry	W,SS	(2-4)	4	Graphic analysis of space problems involving points, lines, planes, connectors and combinations of these. Practical design problems are stressed with analytical verification when applicable. Visualization is stressed on every problem. P. R. DFT 101.

FINE ARTS DEPARTMENT

Objectives — The fine arts courses are designed to provide opportunities to the greatest possible number of students to share in the heritage of the fine arts culture of the human race. and to contribute to this culture; to create a balance between creative skills and academic studies and to promote in the student a comprehension of his responsibilities to the society and culture in which he lives.

ART 105	History of Art	S	(3-0)	3	An introduction and orientation to a comprehensive picture of important aesthetic principles. A survey of the past which encourages the student to develop his own purposes and style. Lecture-discussion documented with paintings, sculpture, reproductions and films.
French					
FRE 101	Elementary French I	F,W,S	(3-1)	3*	Basic elements of French in composition, reading and conversation designed for beginning students.

FRE	102	Elementary French II	W,S,SS	(3-1)	3*
		Continuation of FRE 101 in basic elements of French in composition, reading and conversation designed for beginning students. P. R. FRE 102 or consent.			
FRE	103	Elementary French III	F,S	(3-1)	3*
		Continuation of FRE 102 in basic elements of French in composition, reading and conversation designed for beginning students. P. R. FRE 102 or consent.			
FRE	151	Intermediate French I	F	(3-1)	3
		Intensive review of basic grammar and vocabulary with emphasis on mastery of idiomatic forms and grammatical structure in dialogues and short stories. P. R. FRE 103 or two high school units and satisfactory score on placement test.			
FRE	152	Intermediate French II	W	(3-1)	3
		Continuation of FRE 151, a study of basic grammar and vocabulary with emphasis on mastery of idiomatic forms and grammatical structure in dialogues and short stories. P. R. FRE 151 or consent.			
FRE	153	Intermediate French III	S	(3-1)	3
		Continuation of FRE 152, a study of basic grammar and vocabulary with emphasis on mastery of idiomatic forms and grammatical structure in dialogues and short stories. P. R. FRE 152 or consent.			
FRE	201	Advanced French I	W	(5-1)	5
		Advanced composition, oral work and reading of selections from French literature, with greater emphasis upon the latter. P. R. FRE 153.			
FRE	202	Advanced French II	S	(5-1)	5
		Continuation of FRE 201, a study of advanced composition, oral work and reading of selections from French Literature. P. R. FRE 201 or consent.			
Music					
MUS	101	Introduction to Music I	F	(3-0)	3
		An introductory study of the elements of musical understanding, with emphasis upon melody, rhythm, harmony, texture, form and timbre.			
MUS	102	Introduction to Music II	W	(3-0)	3
		An introduction to the periods of music literature.			
MUS	103	Introduction to Music III	S	(3-0)	3
		Further development of performance and listening.			
MUS	110	Music Appreciation I	F	(3-0)	3
		A basic listening course designed to develop understanding and appreciation of the art of music.			
MUS	111	Music Appreciation II	W	(3-0)	3
		A continuation of MUS 110, a basic listening course designed to develop an understanding and appreciation of the art of music.			
MUS	112	Music Appreciation III	S	(3-0)	3
		A continuation of MUS 111, a basic listening course designed to develop understanding and appreciation of the art of music.			
MUS	120	Basic Music Literature I	F	(3-0)	3
		A study of outstanding examples of music literature of selected periods, styles and forms.			

*Students with two high school units in French may by-pass these courses.

MUS 121	Basic Music Literature II	W	(3-0)	3	A continuation of MUS 120, which includes a study of outstanding music literature of selected periods, styles and forms.
MUS 122	Basic Music Literature III	S	(3-0)	3	A continuation of MUS 121 which includes a study of outstanding music literature of selected periods, styles and forms.
MUS 150	Mixed Chorus	F,W,S	(0-3)	1	Open to all students. (Credit cumulative, not to exceed six quarter hours. Does not satisfy humanities requirement.)
MUS 160	Men's Glee Club	F,W,S	(0-2)	2/3	Open to all men. (Credit cumulative, not to exceed four quarter hours. Does not satisfy humanities requirement.)
MUS 170	Women's Glee Club	F,W,S	(0-2)	2/3	Open to all women. (Credit cumulative, not to exceed four quarter hours. Does not satisfy humanities requirement.)
MUS 180	Choir	F,W,S	(0-3)	1	Participants selected by audition. (Credit cumulative, not to exceed six quarter hours. Does not satisfy humanities requirement.)
MUS 190	Madrigal	F,W,S	(0-2)	2/3	Participants selected by audition. (Credit cumulative, not to exceed six quarter hours. Does not satisfy humanities requirement.)
MUS 201	History of Music I	S, Even	(5-0)	5	A survey of Western Art music from the close of the ancient period through recent developments. P. R. A reading knowledge of music.
MUS 202	History of Music II	S, Odd	(5-0)	5	A continuation of MUS 201 in a survey of Western Art music. P. R. A reading knowledge of music.
MUS 210	Music Theory I	F	(5-0)	5	A study of the elements of music theory and harmony. P. R. A reading knowledge of music.
MUS 211	Music Theory II	W	(5-0)	5	A continuation of MUS 210 in a study of the elements of music theory and harmony. P. R. A reading knowledge of music.
Spanish					
SPA 101	Elementary Spanish I	F,W	(3-1)	3*	Basic elements of Spanish in composition, reading and conversation designed for beginning students.
SPA 102	Elementary Spanish II	W,S	(3-1)	3*	Continuation of SPA 101 in a study of basic elements of Spanish in composition, reading and conversation designed for beginning students. P. R. SPA 101 or consent.
SPA 103	Elementary Spanish III	S,SS	(3-1)	3*	Continuation of SPA 102 in a study of basic elements of Spanish in composition, reading and conversation designated for beginning students. P. R. SPA 102 or consent.
SPA 151	Intermediate Spanish I	F	(3-1)	3	Study and practice of reading, composition and conversation in Spanish for students with two high school units of Spanish or equivalent. P. R. SPA 103 or two high school units.

*Students with two high school units in Spanish may by-pass these courses.

SPA 152	Intermediate Spanish II	W	(3-1)	3	Continuation of SPA 151, study and practice of reading, composition and conversation in Spanish. Emphasis on Spain and its civilization. P. R. SPA 152 or consent.
SPA 153	Intermediate Spanish III	S	(3-1)	3	Continuation of SPA 102, study and practice of reading, composition and conversation in Spanish. Emphasis on Spain and its civilization. P. R. SPA 152 or consent.
SPA 201	Advanced Spanish I	W	(5-1)	5	Advanced composition, oral work and reading of selections from Spanish literature, with greater emphasis upon the literature of Latin America and its people. P. R. SPA 153 or consent.
SPA 202	Advanced Spanish II	S	(5-0)	5	Continuation of SPA 201, advanced composition, oral work and reading of selections from Spanish literature with greater emphasis upon the literature of Latin America and its people. P. R. SPA 201 or consent.

LANGUAGE ARTS DEPARTMENT

Objectives — The Language Arts Department — embracing English and speech — strives to help the student develop proficiency in reading, writing, and speaking his native language. Emphasis is placed on skills in the freshman courses; in later courses, on humanities — understanding the broad cultural heritage of British and American national literature.

Students who intend to major in English can complete the usual requirements of the freshman and sophomore years in this department. For students who intend to major in another discipline, the courses offered will satisfy the general requirements in English and speech for a bachelor's degree.

English

ENG 030	Reading Improvement	F,W,S,SS	(5-0)	0	This course is designed to afford immediate improvement of reading skills and study habits to enable students to carry out the academic requirements of college.
ENG 031	Fundamentals of Composition	F,W,S,SS	(5-0)	0*	Intensive review of grammar, punctuation and the mechanics of English through original composition.
ENG 101	English Composition I	F,W,S,SS	(3-0)	3	Intensive study of and practice in effective expository writing, emphasizing principles of grammar, punctuation and organization.
ENG 102	English Composition II	F,W,S,SS	(3-0)	3	Continuation of the study of composition, emphasizing interpretation and evaluation of expository, narrative and creative writing. P. R. ENG 101.
ENG 103	English Composition III	F,W,S,SS	(3-0)	3	Further study in composition, emphasizing the research paper. P. R. ENG 102.

*This is a non-credit course, but it should be counted as a five-hour load for scheduling purposes.

ENG 201	Major British Writers I	F,W,S	(5-0)	5	Selected authors through Milton. Chronological development of English literature with emphasis upon the most influential and outstanding writers. A study of the various genres to establish methods of analysis for interpretation, understanding and appreciation. P. R. ENG 103.
ENG 202	Major British Writers II	F,S,SS	(5-0)	5	Selected authors from Swift to present. A continuation of ENG 201 with particular emphasis upon the development of modern literary styles. P. R. ENG 103.
ENG 205	Major American Writers I	W,S	(5-0)	5	Selected authors to Whitman. The study of American literature as it developed national characteristics, with consideration of its relationship to historical events. Emphasis upon outstanding writers of the period. P. R. ENG 103.
ENG 206	Major American Writers II	S,SS	(5-0)	5	Selected authors from Mark Twain to present. A continuation of ENG 205 with special attention to twentieth century writers, and their interpretation of the modern era. P. R. ENG 103.
Speech					
SPH 101	Oral Communication	F,W,S,SS	(3-0)	3	Principles of effective communication with emphasis upon self-expression in conversation, interviewing, understanding, listening, questioning, conferences and vocabulary.
SPH 201	Public Speaking	F,W,S,SS	(3-0)	3	A study of the mechanics of speech; adaptation of method to purpose in speaking; preparation of specific kinds of speeches; presentation of extemporaneous, impromptu, prepared and memorized material. P. R. SPH 101 or consent.

MATHEMATICS AND PHYSICAL SCIENCE DEPARTMENT

Objectives — The mathematics and physical science courses are designed to prepare students for professional careers in science, mathematics and related areas, to develop student knowledges and understandings of the fundamental principles and concepts of mathematics; to teach the students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data, to be thorough in considering all aspects of a problem, to develop manipulative skills and the ability to apply mathematics to physical situations; to prepare people to live in a complex society, to impart knowledge of scientific facts and to promote an understanding of the contributions that physical science has made and is making to the ability of man to master his environment.

Chemistry

CHM 101	General Chemistry I	F,W,S,SS	(4-3)	5	A study of the fundamental postulates and laws of chemistry with emphasis upon the relationship of atomic structure to physical and chemical properties of the elements.
CHM 102	General Chemistry II	W,S	(4-3)	5	Continuation of CHM 101 with emphasis on chemical equilibria, chemical kinetics, solution stoichiometry and electrochemistry. P. R. CHM 101.
CHM 103	General Chemistry III and Elementary Analysis	S	(3-4)	5	Continuation of CHM 102 including qualitative analysis with emphasis upon ionic equilibria and relating chemical proper-

ties to atomic and molecular structure. Some quantitative analysis with and without instruments will be included. P. R. CHM 102.

CHM 201	Quantitative Chemical Analysis	S	(3-6)	6	The theory of quantitative volumetric and gravimetric determinations, with emphasis upon the principles of precipitation, neutralization and oxidation and reduction applied to unknowns. Some modern instrumental methods are included. P. R. CHM 103 or consent.
CHM 210	Organic Chemistry I	F,S	(3-6)	6	A systematic study of the basic theories, principles and techniques of organic chemistry and their application to reactions of aliphatic and aromatic compounds and natural products. Laboratory work in purification, characterization and synthesis of organic compounds. P. R. CHM 103 or consent.
CHM 211	Organic Chemistry II	W,SS	(3-6)	6	Continuation of CHM 210. P. R. CHM 210.

Geology

GEL 101	Physical Geology	SS, Even	(4-3)	5	An introductory course in geology, including the development of the earth, the origin of landforms, and the study of common rocks and minerals.
GEL 201	Historical Geology	SS, Odd	(4-3)	5	A study of the sequence of the geological periods, including the fossils and rock strata associated with the various periods.

Mathematics

MAT 031	Developmental Algebra	F,W,S,SS	(5-0)	0*	An intensive study of pre-college algebra designed for the purposes of providing a background in algebra and preparing the student for college-level mathematics. P. R. Placement Examination.
MAT 033	Developmental Geometry	F,W,S,SS	(5-0)	0*	An intensive study of pre-college geometry for the purpose of preparing the student for college-level mathematics.
MAT 101	Introduction to Mathematics I	F,W,S,SS	(5-0)	5	A first course in mathematics designed to give the essential mathematical background for college work in major fields other than mathematics, engineering or physical science. The first course in the sequence includes elementary set theory and reinforces the manipulative skills learned in elementary algebra. (Not applicable to mathematics or science major.) P. R. Placement examination or MAT 031; C. R. MAT 033 or high school geometry.
MAT 102	Introduction to Mathematics II	F,W,S,SS	(5-0)	5	A continuation of MAT 101 with greater emphasis upon algebraic equations and other fundamental algebraic concepts deemed useful to individuals in a technological society. (Not applicable to mathematics or science major.) P. R. MAT 101, MAT 033 or high school geometry.
MAT 110	College Algebra	F,W,S,SS	(5-0)	5	The course includes the study of sets and logic, the meaning of the number system, polynomials, algebraic fractions, equations, vectors and matrices. P. R. Placement examination, C. R. MAT 033 or equivalent.

*This is a non-credit course, but it should be counted as a five-hour load for scheduling purposes.

MAT 120	Trigonometry	F,W,S,SS	(5-0)	5	This course is a continuation of MAT 110. Topics include the study of inequalities, functions and relations, exponential and logarithmic functions, trigonometric functions of angles, trigonometric functions of real numbers, hyperbolic functions, and a brief introduction to analytic geometry. P. R. MAT 102, MAT 110, MAT 033 or equivalent.
MAT 140	Introductory Calculus	S,SS	(5-0)	5	This is a brief treatment of the calculus for non-mathematical or non-science majors. Topics include the real numbers, functions, limits, derivatives and definite integrals, with applications to business and social science. P. R. MAT 102 or equivalent.
MAT 150	Analytic Geometry and Calculus I	F,S,SS	(5-1)	5	A unified sequence in analytic geometry and differential and integral calculus. (This sequence is recommended for students in engineering, mathematics and the physical sciences.) P. R. MAT 120, or the equivalent and consent.
MAT 201	Analytic Geometry and Calculus II	F,W	(5-1)	5	Continuation of MAT 150. P. R. MAT 150 or consent.
MAT 202	Analytic Geometry and Calculus III	W,S	(5-1)	5	Continuation of MAT 201. P. R. MAT 201 or consent.
MAT 203	Analytic Geometry and Calculus IV	S,SS	(5-1)	5	Continuation of MAT 202. P. R. MAT 202 or consent.
Physical Science, Basic					
SCI 101	Basic Physical Science I	F,W,S,SS	(3-2)	4**	An integrated study of selected topics presented in logical order from physics, chemistry, geology, meteorology and astronomy with basic concepts emphasized. C. R. MAT 101 or MAT 110.
SCI 102	Basic Physical Science II	W,S	(3-2)	4**	Continuation of SCI 101. P. R. SCI 101.
SCI 103	Basic Physical Science III	S,SS	(3-2)	4**	Continuation of SCI 102. P. R. SCI 102.
Physics					
PHY 201	General Physics I: Mechanics	F	(4-3)	5	The first of three quarters in basic physics sequence covering the concepts of classical physics with emphasis upon the solution of problems. A series of selected quantitative experiments is performed in laboratory periods. Primarily for students majoring in physical science, engineering or mathematics. P. R. MAT 150.
PHY 202	General Physics II: Heat, Sound and Light	W	(4-3)	5	A continuation of PHY 201. P. R. PHY 201.
PHY 203	General Physics III: Electricity, Magnetism and Modern Physics	S	(4-3)	5	A continuation of PHY 201 and 202. P. R. PHY 202.

**These courses should fulfill the physical-science requirement for liberal arts or education majors at many four-year institutions; however, these courses are not a substitute for chemistry or physics when they are stated as specific requirements.

PHYSICAL EDUCATION DEPARTMENT

Objectives — The physical education curriculum is designed to provide instruction which will lead to healthful living, and to provide experience in physical activities which will lead to acquisition of skill and fitness with leisure-time or recreational value.

PED 101	Health, Physical Education and Recreation I	F,W	(1-3)	2
	A study of some basic principles of health and personal and community hygiene in addition to three hours per week of participation in individual or team sports (or approved physically-oriented recreational activities).			
PED 102	Health, Physical Education and Recreation II	W,S	(1-3)	2
	Continuation of PED 101.			
PED 103	Health, Physical Education and Recreation III	S,SS	(1-3)	5
	Continuation of PED 102.			

SOCIAL SCIENCE DEPARTMENT

Objectives — The social science courses are designed to develop on the part of the student the power of independent investigation and critical analysis; to develop a clearer understanding of the forces behind the movements and problems of mankind so that the student can more effectively care for himself and discharge the duties of a citizen; to develop competence in analyzing individual and group behaviors and their effects upon interpersonal relationships; to develop an understanding of man's development politically, socially, economically and culturally.

Anthropology

ANT 101	General Anthropology	S	(5-0)	5
	An introductory course including human classification according to physical anthropology, the nature and development of culture and patterns of human behavior in simpler societies.			

Economics

ECO 201	Economics I	F,W,S,SS	(3-0)	3
	Basic economics with attention to central problems of price, competition and money; supply and demand; business organizations; firm and family income; labor and industrial relations; government and the economy; gross national product; relationship of income to expenditures; business cycles.			
ECO 202	Economics II	F,W,S,SS	(3-0)	3
	Historical development of economic thought; creation of money; banking and the Federal Reserve System; monetary and fiscal policy; price, utility and costs in selected industries; competition and monopoly.			
ECO 203	Economics III	W,S	(3-0)	3
	Distribution of income; the factors in production; wages and collective bargaining; interest and capital; profits and incentive; international payments, trade and gold flow; current economic problems. P. R. ECO 201.			

Education

EDU 201	Introduction to Education	SS	(5-0)	5
	A first course in education surveying the history, development and present status of education in American society, with attention given to the objectives of democratic education and the role of the teacher in their implementation.			

Geography

GEO 101	Introduction to Physical Geography	F	(4-2)	5	A study of the basic physical elements of geography, emphasizing the climatic environment.
GEO 201	Economic Geography	W	(5-0)	5	The description of world regions and the relationship of the geographic environment to economic pursuits in agriculture, industry and commerce.

History

HIS 101	World Civilization I	F,W,S,SS	(5-0)	5	A survey of the history of man — his political, social, religious, intellectual and artistic activities — from the earliest times to the seventeenth century in Europe, Asia and Africa.
HIS 102	World Civilization II	F,W,S,SS	(5-0)	5	The concluding part of the survey of world civilization, including the trends from the seventeenth century to the present in Europe, Asia and the Americas.
HIS 151	American History I	F,W,S	(3-0)	3	A survey of the important events of the American development from the Age of Foreign Adventure to 1799.
HIS 152	American History II	W,S	(3-0)	3	The intermediate survey of the American development from 1800-1899.
HIS 153	American History III	S,SS	(3-0)	3	The conclusion of the survey of the American development from 1900 to the present.

Philosophy

PHI 101	Introduction to Philosophy	W,S	(5-0)	5	An introduction to the basic problems of human thought emphasizing the philosophical systems dealing with these problems and their historical development.
PHI 201	Logic	F	(5-0)	5	An intensive study of the methodology of valid reasoning, including formal principles of deduction and induction.

Political Science

POL 101	American Government I: National	F,W,S	(5-0)	5	The constitutional and legal bases of the national government in relation to its organization, powers, procedures and programs. Attention is given to the instrumentalities of popular control.
POL 102	American Government II: State and Local	S	(5-0)	5	The relationship of state government to the national government; state constitutions; the organization, powers, procedures and programs of the state government; the relationship of state and local governments; the role of local governments; popular control in state and local governments. P. R. POL 101, HIS 151 or consent.

Psychology

PSY 201	General Psychology	F,W,S	(5-0)	5	A survey of psychology, including organic structure, perception, motivation, learning, principles of behavior, measurements and theories of psychology.
PSY 202	Human Development	W,S	(5-0)	5	Development of the normal child and adolescent, with consideration of the social, biological and cultural influences upon growth. P. R. PSY 201.

PSY 203	Educational Psychology	W,S	(5-0)	5	A study of the nature of the learning process with attention to inherited tendencies, habit and attitude formation, acquisition of skills, sense perception and retention. It includes a consideration of the elements of learning theory such as conditioning, association and insight.
PSY 210	Deviant Behavior	W	(5-0)	5	The dynamics of human behavior. The biological, intellectual, emotional and cultural are examined with emphasis on deviant developmental patterns.
Sociology					
SOC 110	Introduction to Criminology	F	(5-0)	5	A study of the causes and methods of prevention, detection and treatment of crime, encompassing historical and contemporary theories.
SOC 120	Crime in America	S	(2-0)	5	An analysis of the factors involved in the rising crime rate. The responsibilities of the police, prosecution, courts, correctional services and citizens are examined.
SOC 201	Introduction to Sociology	F,W,S,SS	(5-0)	5	An analysis of the society and culture dealing with social organization, control, institutions, stratification and social change.
SOC 202	Social Problems	F,W,S	(5-0)	5	A study of the major social problems of modern society, including family disorganization, minority groups, and problems associated with industrial and urban development.
SOC 203	Marriage and the Family	F,W,S	(5-0)	5	Study of the American family with attention given to courtship, marriage, family relationships and interdependencies, and social or cultural stresses emerging from contemporary family life. P. R. SOC 201 or consent.

Part Six

The Trade and Vocational Program

Descriptions

of

Trade and Vocational Courses

And Curricula

Leading To A

Vocational Diploma

The following section of the Catalog contains descriptions of the curricula listed below.

- I. Air Conditioning and Refrigeration
- II. Automotive Body Repair
- III. Automotive Mechanics
- IV. Dental Assisting
- V. Machinist
- VI. Medical Office Assisting
- VII. Practical Nursing
- VIII. Welding

AIR CONDITIONING AND REFRIGERATION

The growing use of air-conditioning (heating and cooling) and refrigeration equipment systems throughout the nation provides many job opportunities for the skilled mechanics who install and repair such equipment in office buildings, factories, homes, food stores, restaurants, theaters, churches and other establishments.

A great number of these skilled people are employed by business concerns which specialize in the repair and maintenance of commercial, industrial and home air-conditioning (heating and cooling) and refrigeration equipment.

Employers prefer to hire men who have a background of knowledge and skill in the field and give them the opportunity to gain additional experience on the job while earning good wages.

Thousands of men trained to install, maintain and repair air-conditioning and refrigeration equipment are needed to meet the demand in this field.

DESCRIPTION OF CURRICULUM

The Air-Conditioning and Refrigeration curriculum at Central Piedmont Community College is designed to prepare a person for employment in this field. The students not only learn theory but also spend a large amount of time in a modern laboratory with up-to-date equipment. Necessary courses in mathematics, science and other related areas are included in the program. A graduate from this curriculum is awarded a diploma by the College and a diploma from the American Refrigeration Institute.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per Week	Quarter Hours	
			Class	Lab.	Credit
FIRST QUARTER					
AHR	1102	Refrigeration Principles and Service	3	12	7
DFT	1104	Blueprint Reading	3	0	3
PHY	1101	Shop Science I	2	2	3
MAT	1101	Shop Mathematics I	3	0	3
ENG	1102	Communication Skills	3	2	3
			14	16	19
SECOND QUARTER					
AHR	1107	Commercial Refrigeration and Cooling Systems	3	12	7
DFT	1116	Applied Drafting	3	0	3
PHY	1102	Shop Science II	2	2	3
MAT	1103	Shop Mathematics II	3	0	3
AHR	1113	Heat Loads and Losses	4	0	4
			15	14	20
THIRD QUARTER					
AHR	1111	Automatic Controls	2	3	3
AHR	1118	Duct Design and Installation	3	9	6
MAT	1104	Shop Mathematics III	3	0	3
AHR	1116	Oil Burner Installation and Service	2	3	3
WLD	1101	Basic Gas Welding	0	3	1
			10	18	16

FOURTH QUARTER

AHR	1117	Gas, Electric and Liquid Heat	3	12	7
AHR	1114	All Weather Systems	2	3	3
PSY	1101	Human Relations	2	0	2
AHR	1115	Estimating	4	0	4
BUS	1103	Shop Management	2	0	2
			13	15	18

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

AHR 1102 Refrigeration Principles and Service (3-12) 7

This course consists of lectures, discussions and demonstrations. Many fields are covered, including essential terminology, laws of refrigeration, physical and chemical effects, materials and tools. The compression system, compressor construction, refrigerants, controls, absorption systems and hermetic units are major topic in the course. Practice will be given in the use of tools in basic refrigeration jobs such as tube bending, flaring, soldering, refrigerant weighing and other service jobs. Much time is spent in actual refrigeration service practice. Discussions, demonstrations and practice will take place on residential cabinets using conventional, hermetic and absorption systems. Controls, system maintenance and system replacement will be stressed. Typical service problems will be worked out by each student. Complete rebuilding of domestic refrigerators will be undertaken .

DFT 1104 Blueprint Reading (3-0) 3

The interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures and notes.

PHY 1101 Shop Science I (2-2) 3

An introductory course in physics and its applications, covering systems of measurement and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electro-magnetism. The production, transmission, distribution, measurement and specific applications of electrical energy also constitute major areas of study.

MAT 1101 Shop Mathematics I (3-0) 3

A review and application of operations with decimals and fractions, percentages, ratios and proportions. An introduction to algebra with emphasis on formulas.

ENG 1102 Communication Skills (3-2) 3

The course deals with the development of an ability to communicate effectively through the medium of good language usage in speaking and writing. Emphasis is placed upon the efficient organization and presentation of thoughts related to job-connected problems.

AHR 1107 Commercial Refrigeration and Cooling Systems (3-12) 7

This course consists of study, demonstration and practice in the installation and service of commercial refrigeration systems. The various commercial applications of refrigeration are covered in classroom discussion before actual practice is given. The units covered include commercial cabinets, reach-in cabinets, walk-in coolers, display cases, frozen food cabinets, ice cream cabinets, water coolers, ice makers and other industrial applications. All standard types of compressors, condensers, coils, valves and controls are studied. Various systems are installed, and typical service problems worked out. Cooling-system installation and service practice on the various types of air-cooled and water-cooled conditioning systems are taught. Types of units used include self-contained and remote air-cooled residential and small commercial units, water-cooled units, water towers, chilled-

water systems, heat pumps and automotive systems. Service of air-movement systems and installation and service of standard controls are stressed. Service and storage of window units are included. P. R. AHR 1102, PHY 1101; C. R. MAT 1103, DFT 1104.

DFT 1116 Applied Drafting (3-0) 3

A study of the prints of the air conditioning trade such as machine prints, exploded prints, wiring schematics, floor plans, elevations and conditioning and equipment layouts constitutes a major portion of this course. Practice in shop sketching, isometric sketching and equipment layouts on prints or tracings is part of the course. Special attention is given to shop sketches of equipment placement and heating distribution systems. It is expected that each student will become familiar with the prints of the trade, will become adept at reading them, and will be able to produce the necessary shop sketches. P. R. DFT 1104.

PHY 1102 Shop Science II (2-2) 3

Principles of force, motion, work, energy, power and mechanisms' mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work are covered. Heat removal (refrigeration) is also introduced. P. R. PHY 1101.

MAT 1103 Shop Mathematics II (3-0) 3

The emphasis is placed on definitions and theorems in geometry. About 40 general theorems are demonstrated by the instructor. Specific application of each theorem to the solution of geometric shop problems is demonstrated. Concepts of linear measure areas and volumes are taught. Geometric formulas are derived intuitively. P. R. MAT 1101.

AHR 1113 Heat Loads and Losses (4-0) 4

In this course the history, theory and factors affecting air conditioning are studied and discussed. The course will cover history of air conditioning, terminology, temperature, measurement, air movement, humidity, psychometric properties, comfort zone, effective temperature, ducts, air diffusion, air cleaning ozone and testing instruments. Many topics are studied including heat loads, heat leakage, coil and condensing unit capacities, coil types and design, coil usage, coil capacities, cooling loads, latent heat, specific heat, motor sizing, tubing sizing and heat loss and gains through various structures. Attention is given to the heating and cooling needs of various structures and the selection of equipment to meet these needs. Load distribution, both air and liquid, is studied, and systems are designed to accomplish proper distribution. This course is very closely correlated with the drafting course. P. R. MAT 1101, AHR 1102, DFT 1104, PHY 1101; C. R. MAT 1103, PHY 1102, AHR 1107.

AHR 1111 Automatic Controls (2-3) 3

The student is introduced to the sheet metal shop and its rules and regulations cooling controls. The fundamentals of controls, definitions, fundamentals of measurement, electric controls, pneumatic controls and controls for air conditioning are covered in theory so they may be applied in the laboratory section. Practical applications will be given in zone controls, unit heater and ventilator controls, commercial fan system controls, commercial refrigeration controls and radiant panel controls. P. R. AHR 1107, MAT 1103, DFT 1116.

AHR 1118 Duct Design and Installation (3-9) 6

The student is introduced to the sheet metal shop and its rules and regulations concerning safety and workmanship. He learns to recognize and use safely the various hand tools and machines of the trade. Hand, machine and fastening operations are correlated with flat layout and parallel line development in the formation of pipe intersection, straight duct, elbows, offsets and reducers as used in the air conditioning trade. The student is given practice in fabrication of duct systems closely correlated with the layout as designed in the drafting section. Instruction and practice are given in radial and triangulation development as used in the fabrication of duct systems and fittings necessary to conditioning systems. Working conditioning systems will be designed by each student. C. R. DFT 1116, MAT 1103, PHY 1102.

MAT 1104 Shop Mathematics III

(3-0) 3

The theory of right triangle trigonometry. Topics include definitions of the six trigonometric ratios, use of trigonometric tables and procedures for visualizing parts of the right triangle on mechanical drawings. Applications of interest to the machinist and air conditioning and refrigeration student. Logarithms are taught as a computational aid only. P. R. MAT 1103.

AHR 1116 Oil Burner Installation and Service

(2-3) 3

This course involves study and practice in the installation and servicing of equipment using high pressure, low pressure, rotary and vaporizing burners. The installation and servicing of various oil burning equipment controls are studied. Actual practice is given in "troubleshooting" problems of oil burners, fans, pumps and their controls under typical working conditions. Service department stock, tools and procedures are integral parts of the instruction. P. R. AHR 1107; C. R. MAT 1103, PHY 1102.

WLD 1101 Basic Gas Welding

(0-3) 1

Welding demonstration by the instructor and practice by students in the oxyacetylene welding shop. Safe and correct methods of assembling and operating the welding equipment are emphasized. Practice is given in surface welding, bronze welding, silver-soldering and flame cutting methods applicable to mechanical repair work.

AHR 1117 Gas, Electric and Liquid Heat

(3-12) 7

The student studies and receives practice in servicing and installing gas burners, electric heating elements and their controls. The applications of various heating devices in liquid heating and their controls are studied. While not a course in steamfitting, the course treats principles of installation of hot water and low pressure steam systems with their controls, pumps and coils. P. R. MAT 1103, PHY 1102, AHR 1111.

AHR 1114 All Weather Systems

(2-3) 3

The student receives practical information and experiences in the combination of heating and cooling equipment into integrated systems. The special controls and their sequence of operation are studied in detail. Heat pumps, cycles, absorption cycles and conventional equipment combinations are studied. P. R. AHR 1116, AHR 1118, MAT 1103, PHY 1102; C. R. AHR 1117.

PSY 1101 Human Relations

(2-0) 2

The development of an understanding of relationships to other persons through some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relation to the established organization of modern business and industry and in relation to governmental practices and labor organizations with special emphasis on the operating responsibilities of good management.

AHR 1115 Estimating

(4-0) 4

Time and material take-offs of duct work and distribution systems, actual cost analysis and profit percentage markups are stressed. Equipment costs and markups for refrigeration and all-weather systems are studied for new installations, replacements and repairs to systems. Operational cost estimates are also a part of the course covered. P. R. AHR 1117, MAT 1104; C. R. AHR 1111, AHR 1116, AHR 1118.

BUS 1103 Shop Management

(2-0) 2

An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business and employer-employee relations.

AUTOMOTIVE BODY REPAIR

The field of automotive body repair and painting requires a large number of well-trained people to meet the growing demand for the many skills needed in this area of employment. People with a background of knowledge and skill in this field have excellent opportunities for jobs with good salaries. Many of these craftsmen, after gaining additional experience, go on to open their own businesses or become body shop foremen, supervisors or managers.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College devotes much of the student's time in the shop to the learning of the necessary skills and practicing of these skills on car bodies and components. Every attempt is made to make these practical experiences as similar to the actual on-the-job work as possible. The large shop and excellent equipment are ideal for preparation for entry into an occupation offering many job opportunities. A graduate from this curriculum will receive a diploma from the college.

SUGGESTED SEQUENCE OF REQUIRED COURSES

				Class	Lab.	Quarter
				Hours	Hours	Credit Hours
FIRST QUARTER						
AUT	1111	Auto Body Repair I		3	12	7
MAT	1101	Shop Mathematics I		3	0	3
WLD	1101	Basic Gas Welding		0	3	1
ENG	1102	Communication Skills		3	2	3
				—	—	—
				9	17	14
SECOND QUARTER						
AUT	1112	Auto Body Repair II		5	15	10
WLD	1105	Auto Body Welding		0	3	1
PHY	1101	Shop Science I		2	2	3
				—	—	—
				7	20	14
THIRD QUARTER						
AUT	1113	Metal Finishing and Painting		3	12	7
AUT	1115	Trim, Glass and Radiator Repair		2	6	4
PHY	1102	Shop Science II		2	2	3
				—	—	—
				7	20	14

FOURTH QUARTER

AUT	1114	Body Shop Applications	1	21	8
PSY	1101	Human Relations	2	0	2
BUS	1103	Shop Management	2	0	2
			5	21	12

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

AUT 1111 Auto Body Repair I (3-12) 7

Basic principles of automobile construction, design, and manufacturing are covered in the beginning of the course. A thorough study is made of angles, crown and forming of steel into the complex contour of the present day vehicles. The practical application is to have the student apply the first principal of straightening, aligning and painting of damaged areas.

MAT 1101 Shop Mathematics I (3-0) 3

A review and application of operations with decimals and fractions, percentages, ratios and proportions. An introduction to algebra with emphasis on formulas.

WLD 1101 Basic Gas Welding (0-3) 1

Welding demonstrations by the instructor and practice by students in the oxy-acetylene welding shop. Safe and correct methods of assembling and operating the welding equipment are emphasized. Practice is given in surface welding, bronze welding, silver-soldering and flame cutting methods applicable to mechanical repair work.

ENG 1102 Communication Skills (3-2) 3

The course deals with the development of an ability to communicate effectively through the medium of good language usage in speaking and writing. Emphasis is placed upon the efficient organization and presentation of thoughts related to job-connected problems.

AUT 1112 Auto Body Repair II (5-15) 10

A thorough study of the requirements of a metal worker, the use of essential tools, forming fender flanges and beads, and straightening typical damage. It is here that the student begins acquiring skill, learning dexterity in shaping angles, crowns and contour of the metal of the body and fenders. More difficult types of metal working and painting are assigned. P. R. AUT 1111, WLD 1101.

WLD 1105 Auto Body Welding (0-3) 1

Welding practices on material applicable to the installation of body panels and repairs to doors, fenders, hoods and deck lids. The student runs beads, does butt and fillet welds and performs all tests to detect strength and weaknesses of welded joints. Safety procedures are emphasized throughout the course. P. R. WLD 1101.

PHY 1101 Shop Science I (2-2) 3

An introductory course in physics and its applications covering systems of measurement and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electro-magnetism. The production, transmission, distribution, measurement and specific applications of electrical energy also constitute major areas of study.

AUT 1113 Metal Finishing and Painting (3-12) 7

The development of the skills of shrinking stretched metal, soldering and leading and preparing metal for the painter. Straightening of doors, hoods and deck lids and fitting and aligning are emphasized. Refinishing includes painting a fender or panel, spot repairs, and complete vehicle painting. The use and application of required power tools complete this phase. P. R. AUT 1112, WLD 1105.

AUT 1115 Trim, Glass and Radiator Repair (2-6) 4

Principles of removal and installation of all phases of interior trim are applied. Cutting, sewing and installing headlinings, seat covers and door trim panels are covered in class and in their practical application. Glass removal, cutting, fitting and installation are covered in detail. A thorough knowledge of the engine cooling system, a study of repairs made necessary by accident to the system, and testing to insure normal engine cooling operation are emphasized. Advanced painting of trim parts and accessories requiring extreme care and skill is included in the course.

PHY 1102 Shop Science II (2-2) 3

Principles of force, motion, work, energy, power, and mechanisms' mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work are covered. Heat removal (refrigeration) is also introduced. P. R. PHY 1101.

AUT 1114 Body Shop Applications (1-21) 8

A general introduction to and instruction in the automotive frame and front end suspension systems. Unit job application covers the actual straightening of frame and front wheel alignment. A general shop application involves the application of all phases of training received. Repair order writing, parts purchasing, owner contacts, estimates of damage and developing the repair order for financing with final settlement with car owner. P. R. AUT 1115, PHY 1102.

PSY 1101 Human Relations (2-0) 2

The development of an understanding of relationships to other persons through some of the basic principles of human psychology. The problems of the in-

dividual and his work situation are studied in relation to the established organization of modern business and industry and in relation to governmental practices and labor organizations, with special emphasis on the operating responsibilities of good management.

BUS 1103 Shop Management

(2-0) 2

An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business and employer-employee relations.



AUTOMOTIVE MECHANICS

The modern automobile is a complicated machine requiring a highly-skilled, well-trained man to properly repair and maintain it for operation at peak efficiency. Automobile mechanics make up the largest service and repair group in the U. S., employing over 10,000 new men every year. Wages are good and opportunities are excellent for the man who is willing to work and anxious to learn.

DESCRIPTION OF CURRICULUM

The Automotive Mechanics curriculum at Central Piedmont Community College is designed to provide the future craftsman with a well-planned program of operational skills and theory necessary to become an automotive mechanic. Topics emphasized include working knowledge in the tune-up, overhaul, repair and replacement of parts of the automotive engine; trouble shooting and repair of electrical equipment; overhaul and replacement of parts in conventional and automatic transmissions and preparation in other vital areas. A student who completes the requirements of this curriculum will receive a diploma from the College.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title				Hours Per Week	Quarter Hours
				Class	Lab. Credit
FIRST QUARTER					
PME	1101	Internal Combustion Engines	4	12	8
MAT	1101	Shop Mathematics I	3	0	3
ENG	1102	Communication Skills	3	2	3
PHY	1101	Shop Science I	2	2	3
			—	—	—
			12	16	17
SECOND QUARTER					
PME	1102	Electrical Systems	3	9	6
PME	1103	Fuel Systems	3	6	5
PHY	1102	Shop Science II	2	2	3
WLD	1101	Basic Gas Welding	0	3	1
			—	—	—
			8	20	15
THIRD QUARTER					
AUT	1123	Auto Chassis and Suspension System	3	9	6
AUT	1124	Auto Power Train Systems	3	12	7
			—	—	—
			6	21	13

FOURTH QUARTER

AUT	1121	Auto Air Conditioning	1	3	2
AUT	1125	Auto Servicing	1	18	7
PSY	1101	Human Relations	2	0	2
BUS	1103	Shop Management	2	0	2
			6	21	13

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

PME 1101 Internal Combustion Engines (4-12) 8

The development of a thorough knowledge and ability in using, maintaining and storing the various hand tools and measuring devices needed in automotive repair work. A study of the construction and operation of components of automotive engines. Testing of engine performance; servicing and maintenance of pistons, valves, cams and camshafts; fuel and exhaust systems; cooling systems; proper lubrication and methods of testing, diagnosing and repairing.

MAT 1101 Shop Mathematics I (3-0) 3

A review and application of operations with decimals and fractions, percentages, ratios and proportions. An introduction to algebra with emphasis on formulas.

ENG 1102 Communication Skills (3-2) 3

The course deals with the development of an ability to communicate effectively through the medium of good language usage in speaking and writing. Emphasis is placed upon the efficient organization and presentation of thoughts related to job-connected problems.

PHY 1101 Shop Science I (2-2) 3

An introductory course in physics and its application covering systems of measurement and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electromagnetism. The production, transmission, distribution, measurement and specific applications of electrical energy also constitute major areas of study.

PME 1102 Electrical Systems (3-9) 6

A thorough study of the electrical system of the automobile, battery cranking mechanism, generator, ignition, accessories and wiring. Emphasis is placed on special tools and testing equipment for the electrical system. P. R. PME 1101, PHY 1101, MAT 1101.

PME 1103 Fuel Systems

(3-6) 5

A thorough study of the fuel system of the automobile including fuel pumps, carburetors and fuel injectors. Characteristics of fuels, types of fuel systems, special tools and testing equipment for the fuel systems. P. R. PME 1101, MAT 1101.

PHY 1102 Shop Science II

(2-2) 3

Principles of force, motion, work, energy, power, and mechanisms' mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work are covered. Heat removal (refrigeration) is also introduced. P. R. PHY 1101.

WLD 1101 Basic Gas Welding

(0-3) 1

Welding demonstrations by the instructor and practice by students in the oxy-acetylene welding shop. Safe and correct methods of assembling and operating the welding equipment are emphasized. Practice is given in surface welding, bronze welding, silver-soldering and flame cutting methods applicable to mechanical repair work.

AUT 1123 Auto Chassis and Suspension Systems

(3-9) 6

The principles and functions of the components of automotive chassis. Practical job instruction is given in adjusting and repairing suspension, steering and braking systems. Units to be studied include shock absorbers, springs, steering systems, steering linkage, front end and types and servicing of brakes. P. R. PME 1102, PME 1103.

AUT 1124 Auto Power Train Systems

(3-12) 7

Principles and functions of automotive power train systems; clutches, transmission, gears, torque converters, drive shaft assemblies, rear axles and differentials. Identification of troubles, servicing and repair. P. R. PHY 1102, MAT 1101, PME 1103.

AUT 1121 Auto Air Conditioning

(1-3) 2

A general introduction to the principles of refrigeration; study of the assembly of the components and connections necessary in the mechanisms; the methods of operation and control; proper handling of refrigerants in charging the system. P. R. PHY 1102.

AUT 1125 Auto Servicing

(1-18) 7

Emphasis is on the shop procedures necessary in determining the nature of troubles in the various component systems of the automobile. The course consists of trouble-shooting of automotive systems, providing a full range of testing, adjusting, repairing and replacing experiences. P. R. AUT 1123, AUT 1124.

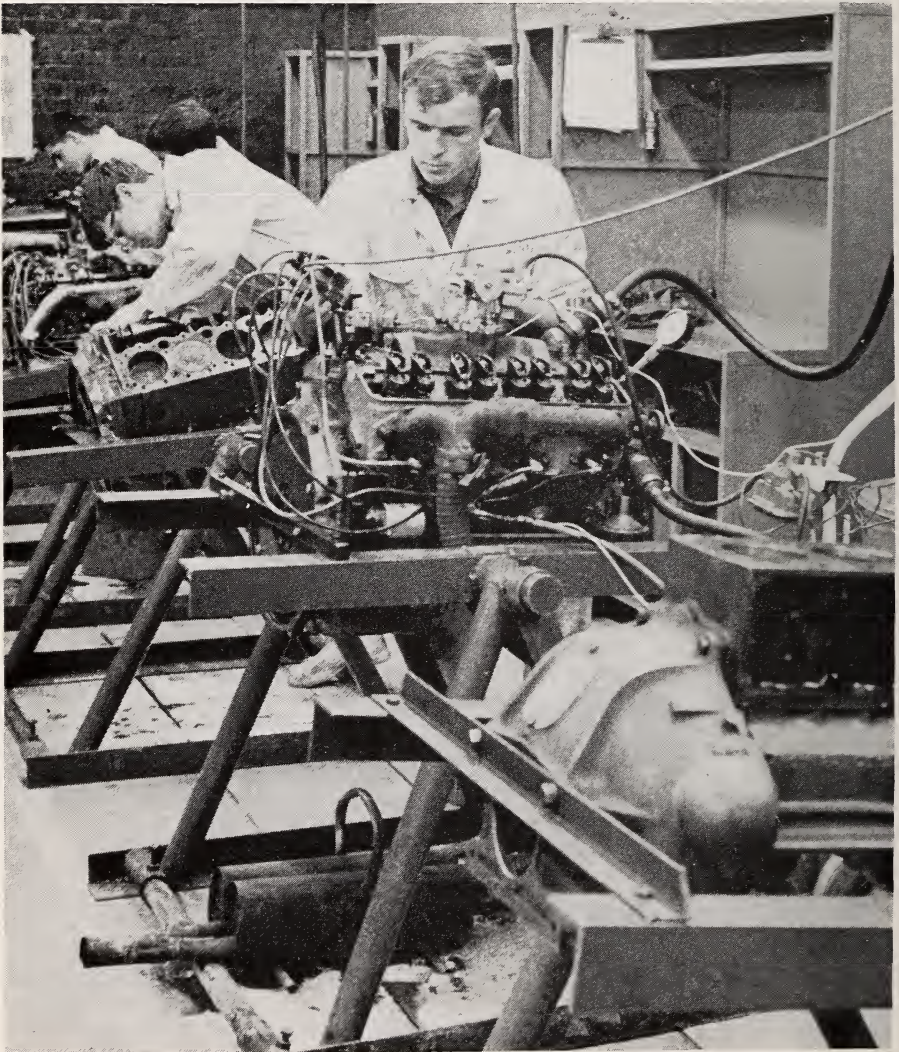
The development of an understanding of relationships to other persons through some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relation to the established organization of modern business and industry and in relation to governmental practices and labor organizations, with special emphasis on the operating responsibilities of good management.

BUS 1103 Shop Management

(2-0)

2

An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business and employer-employee relations.



DENTAL ASSISTING

The primary function of the dental assistant is to serve as the chairside assistant to the dentist. Here she plays an active and integral role in dental procedures by preparing patients for treatment, setting out instruments in the order in which they are to be used, keeping the operation field clear during treatment, mixing filling materials and dental cements and passing these materials and instruments to the dentist as he needs them.

The trained dental assistant also checks equipment, sterilizes instruments and engages in such laboratory work as making study models of teeth, casting inlays, processing x-ray films and mounting them in appropriate holders.

In many offices the dental assistant also serves as receptionist and office manager, schedules appointments and keeps records.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College includes instruction in dental anatomy and physiology, bacteriology, pharmacology, oral pathology, dental materials, chairside assisting, typing, English, human relations and record keeping. A large portion of the student's time is spent in laboratory work and clinical experiences. A graduate from this curriculum will receive a diploma from the College.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per Week	Quarter Hours	
			Class	Credit	
FIRST QUARTER					
DEN	1000	Anatomy and Physiology	3	0	3
DEN	1001	Introduction to Dental Assisting	2	0	2
DEN	1002	Dental Materials	3	9	6
DEN	1003	Preclinical Science I	3	0	3
PSY	1101	Human Relations	2	0	2
ENG	1102	Communication Skills	3	2	3
			16	11	19
SECOND QUARTER					
DEN	1004	Preclinical Science II	3	0	3
DEN	1005	Dental Roentgenology	2	6	4
DEN	1006	Clinical Procedures I	2	6	4
BUS	1110	Accounting	5	2	6
ENG	1103	Report Writing	3	0	3
			15	14	20

THIRD QUARTER

DEN	1007	Clinical Procedures II	4	3	5
DEN	1008	Dental Office Management	4	3	5
DEN	1009	Dental Office Practice I	0	9	3
ENG	1104	Speech	3	0	3
BUS	1102	Typing or Elective*	2	3	3
			13	18	19

FOURTH QUARTER

DEN	1010	Dental Office Practice II	0	24	8
DEN	1011	Dental Assistant Seminar	2	0	2
			2	24	10

*Consent of Dental Assisting Department.

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course is listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

DEN 1000 Anatomy and Physiology (3-0) 3

A lecture course designed to develop a knowledge and understanding of the basic structures surrounding the teeth, formation of the primary and permanent dentition, basic anatomy of individual teeth and the application of these to the carving of restorative patterns. The general anatomy of the body and the basic concepts of the normal functions of body systems are also discussed.

DEN 1001 Introduction to Dental Assisting (2-0) 2

An introduction to the dental profession; its purpose, history, progress and terminology; members of the dental health team and their education, training, function and respective professional organizations; laws and ethics governing the practice of dentistry; understanding and practical application of personal hygiene; professional and social conduct of the dental assistant.

DEN 1002 Dental Materials (3-9) 6

A study of the composition and source of materials employed in dentistry and the behavior of these materials under various treatments. The dental assistant student learns through lectures, demonstrations and laboratory exercises to identify and prepare these materials for any of the routine dental procedures in the general practice of dentistry and in the specialties of the dental profession.

DEN 1003 Preclinical Science I (3-0) 3

This course is designed to show how bacteriology and dental health are related, and to demonstrate techniques for successfully coping with the bacteriological problems which arise in the dental office. A portion of the course is devoted to diet and nutrition as applied to dentistry.

- PSY 1101 Human Relations** (2-0) 2
The development of an understanding of relationships to other persons through some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relation to the established organization of modern business and industry and in relation to governmental practices and labor organizations, with special emphasis on the operating responsibilities of good management.
- ENG 1102 Communication Skills** (3-2) 3
The course deals with the development of an ability to communicate effectively through the medium of good language usage in speaking and writing. Emphasis is placed upon the efficient organization and presentation of thoughts related to job-connected problems.
- DEN 1004 Preclinical Science II** (3-0) 3
This course covers oral pathology, pharmacology and first aid. Topics studied include fundamental concepts of the more common diseases and disease processes in the oral cavity, the indications, dosage, methods of administration and storage of common drugs and medicaments used in the dental office; first aid and emergency care for the dental patient. P. R. DEN 1000, DEN 1003.
- DEN 1005 Dental Roentgenology** (2-6) 4
Lectures, demonstrations and clinical practice teach the dental assistant student the techniques of exposing, processing and mounting intraoral roentgenograms. The student also learns the various types, speeds and methods of protection of films used in dentistry. Radiation hazards and safety measures, as well as the proper operation of the dental x-ray machine, are studied. P. R. DEN 1000, DEN 1002.
- DEN 1006 Clinical Procedures I** (2-6) 4
The identification of dental equipment and dental instruments for general dentistry and specialized areas with emphasis given to utilization and care. Proper sterilization techniques are stressed. An introduction to chairside procedures. P. R. DEN 1000, DEN 1001, DEN 1002, DEN 1003.
- BUS 1110 Accounting** (5-2) 6
The principles, techniques and tools of accounting are studied. Emphasis is placed upon understanding of the mechanics of accounting — collecting, summarizing, analyzing and reporting information about service and mercantile enterprises. Opportunity is given for practical application of the principles learned.
- ENG 1103 Report Writing** (3-0) 3
This course is designed to aid the student in the improvement of self-expression in business and technical composition. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation and spelling. The objective is to stimulate students to apply the basic principles of English grammar to their day-to-day situations in industry and social life.
- DEN 1007 Clinical Procedures II** (4-3) 5
A continuation in chairside procedures and techniques from DEN 1006 with emphasis placed on the eight specialties in dentistry. P. R. Third quarter standing in the Dental Assisting curriculum.

- DEN 1008 Dental Office Management** (4-3) 5
Principles and procedures related to management of the dental office, including maintenance of inventories, ordering of supplies, financial records, clinical records, cavity classification and nomenclature, making appointments, telephone technique and establishing favorable patient relations. P. R. Third quarter standing in the Dental Assisting curriculum.
- DEN 1009 Dental Office Practice I** (0-9) 3
An introduction to practice in the dental office or dental clinic. Emphasis is on the role of assisting in the operatory in a variety of limited dental procedures. P. R. Third quarter standing in the Dental Assisting curriculum.
- ENG 1104 Speech** (3-0) 3
A study of the mechanics of speech; adaptation of method to purpose in speaking; preparation of specific kinds of speeches; presentation of extemporaneous, impromptu, prepared and memorized material.
- BUS 1102 Typing** (2-3) 3
This course is required of all students who have had no previous typing. The touch system is taught. The proper manipulation of the keyboard and the operation of the machine are given special attention.
- DEN 1010 Dental Office Practice II** (0-24) 8
Practice in the dental office or dental clinic; assignments are rotated to encompass experience in office management, the dental laboratory and the operatory. Emphasis on chairside assisting in a variety of clinical procedures. P. R. Fourth quarter standing in Dental Assisting curriculum.
- DEN 1011 Dental Assistant Seminar** (2-0) 2
A study of personal responsibilities as a practitioner, including employee-employer relations, opportunities for continued development as a person and as a health worker, and evaluation of clinical experience. P. R. Fourth quarter standing in Dental Assisting curriculum.

MACHINIST

The machinist is a key man in all industry engaged in manufacturing. The services of this highly-skilled craftsman are much in demand, and industrial development depends upon an ample supply of these trained people. To turn a common piece of metal into an intricate part meeting precise specifications, the skilled machinist must possess, along with a basic skill on all machines, a wide knowledge of shop practices and the working properties of various metals.

DESCRIPTION OF CURRICULUM

The Machinist curriculum at Central Piedmont Community College offers an opportunity for young men to gain the skill and knowledge needed to obtain an entry job in this interesting and rewarding occupation. By working on the job to gain experience beyond that learned in school, the ambitious person will find unlimited opportunities for advancement in this highly-skilled field of employment. Well-qualified instructors and excellent shop equipment can make this program a gateway to a very respected occupation. A graduate from this curriculum receives a diploma from the College.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per Week		Quarter
			Class	Lab.	Hours Credit
FIRST QUARTER					
MEC	1101	Machine Shop Theory and Practice I	3	12	7
DFT	1104	Blueprint Reading	3	0	3
MAT	1101	Shop Mathematics I	3	0	3
ENG	1102	Communication Skills	3	2	3
			12	14	16
SECOND QUARTER					
MEC	1102	Machine Shop Theory and Practice II	3	12	7
DFT	1105	Blueprint Reading and Drawing:			
		Machinist I	3	0	3
MAT	1103	Shop Mathematics II	3	0	3
PHY	1101	Shop Science I	2	2	3
WLD	1101	Basic Gas Welding	0	3	1
			11	17	17
THIRD QUARTER					
MEC	1103	Machine Shop Theory and Practice III	2	12	6
DFT	1106	Blueprint Reading and Drawing:			
		Machinist II	3	0	3
MAT	1104	Shop Mathematics III	3	0	3
PHY	1102	Shop Science II	2	2	3
MEC	1115	Heat Treatment of Metals I	1	3	2
			11	17	17

FOURTH QUARTER

MEC	1104	Machine Shop Theory and Practice IV	2	15	7
MAT	1123	Shop Mathematics IV	3	0	3
MEC	1116	Heat Treatment of Metals II	1	3	2
PSY	1101	Human Relations	2	0	2
			—	—	—
			8	18	14

COURSE DESCRIPTIONS

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MEC 1101 Machine Shop Theory and Practice I (3-12) 7

The identification, care and use of basic hand tools and precision measuring instruments used in the machinist trade. Elementary layout procedures and processes of lathe, drill press and grinding (off-hand) are introduced. Initial stressing of shop safety and desirable work habits.

DFT 1104 Blueprint Reading (3-0) 3

The interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures and notes.

MAT 1101 Shop Mathematics I (3-0) 3

A review and application of operations with decimals and fractions, percentages, ratios and proportions. An introduction to algebra with emphasis on formulas.

ENG 1102 Communication Skills (3-2) 3

The course deals with the development of an ability to communicate effectively through the medium of good language usage in speaking and writing. Emphasis is placed upon the efficient organization and presentation of thoughts related to job-connected problems.

MEC 1102 Machine Shop Theory and Practice II (3-12) 7

Advanced operations with layout tools and procedures, power sawing, drill press, surface grinder, milling machine and shaper. The student is introduced to the basic operations of the cylindrical grinder and is given projects encompassing all the operations, tools and procedures used thus far. P. R. MEC 1101.

DFT 1105 Blueprint Reading and Drawing: Machinist II (3-0) 3

This course provides an introduction to the interpretation and reading of machine blueprints. It also introduces the basic principles of mechanical drawing, including both sketching and the use of drawing instruments, as applied to machine parts.

MAT 1103 Shop Mathematics II**(3-0) 3**

The emphasis is placed on definitions and theorems in geometry. About 40 general theorems are demonstrated by the instructor. Specific application of each theorem to the solution of geometric shop problems is demonstrated. Concepts of linear measure, areas and volumes are taught. Geometric formulas are derived intuitively. P. R. MAT 1101.

PHY 1101 Shop Science I**(2-2) 3**

An introductory course in physics and its applications covering systems of measurement and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electro-magnetism. The production, transmission, distribution, measurement and specific applications of electrical energy also constitute major areas of study.

WLD 1101 Basic Gas Welding**(0-3) 1**

Welding demonstrations by the instructor and practice by students in the oxy-acetylene welding shop. Safe and correct methods of assembling and operating the welding equipment are emphasized. Practice is given in surface welding, bronze welding, silver-soldering and flame cutting methods applicable to mechanical repair work.

MEC 1103 Machine Shop Theory and Practice III**(2-12) 6**

Advanced work on the engine lathe, grinder, milling machine and shaper. An introduction to basic indexing, cutting and measuring spur gears. The student is also introduced to exercises on the turret lathe and the tool and cutter grinder. P. R. MEC 1102.

DFT 1106 Blueprint Reading and Drawing: Machinist II**(3-0) 3**

A continuation of DFT 1105. Attention is given to the interpretation and reading of more complicated blueprints. Practice is provided in the production of more complicated machine industrial drawings by both sketching and the use of drawing instruments.

MAT 1104 Shop Mathematics III**(3-0) 3**

The theory of right triangle trigonometry. Topics include definitions of the six trigonometric ratios, use of trigonometric tables and procedures for visualizing parts of the right triangle on mechanical drawings. Applications of interest to the machinist and air conditioning and refrigeration student. Logarithms are taught as a computational aid only. P. R. MAT 1103.

PHY 1102 Shop Science II**(2-2) 3**

Principles of force, motion, work, energy, power and mechanisms' mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work are covered. Heat removal (refrigeration) is also introduced. P. R. PHY 1101.

MEC 1115 Heat Treatment of Metals I**(1-3) 2**

The investigation of the properties of ferrous metals and tests to determine their uses. Some chemical metallurgy is included to provide background for the understanding of the physical changes and the causes of these changes in metals. Physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloys of special steel, classification of steels and cast iron are topics for study.

The student participates in the development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Special advanced projects are given to those students who have demonstrated marked ability in the course. P. R. MEC 1103.

MAT 1123 Shop Mathematics IV

(3-0)

3

Theory and practice in measurement of screw threads, gear ratio and simple indexing. Fundamental applications of compound angles and continued fractions to shop problems. Math problems taken from industry are incorporated for solution in this course. P. R. MAT 1104.

MEC 1116 Heat Treatment of Metals II

(1-3)

2

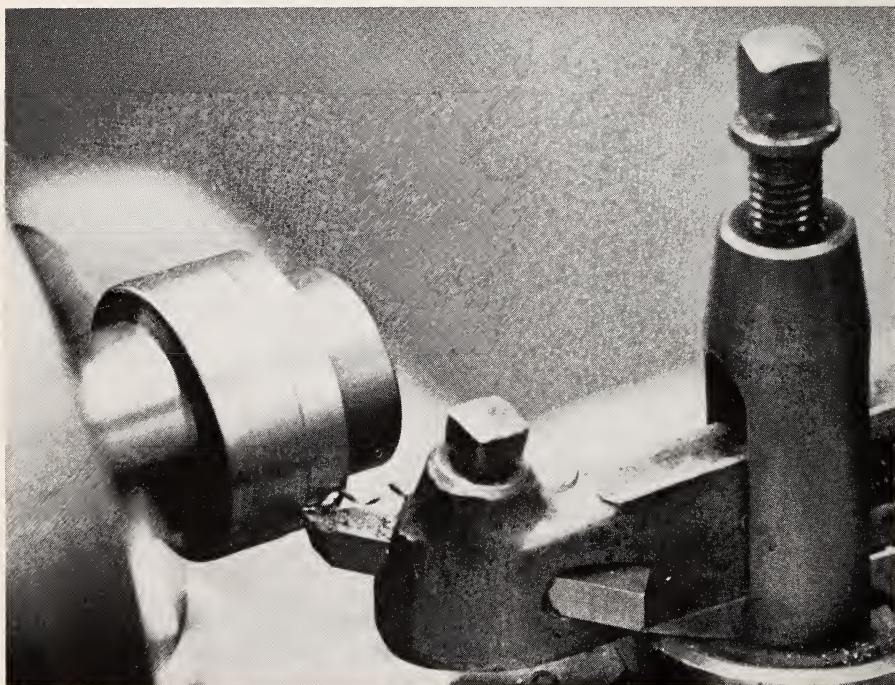
A continuation of the study of physical metallurgy. The non-ferrous metals, bearing metals (brasses, bronze, lead), light metals (aluminum and magnesium) and copper and its alloys are studied. Powder metallurgy, titanium, zirconium, indium and vanadium are included in the course. P. R. MEC 1115.

PSY 1101 Human Relations

(2-0)

2

The development of an understanding of relationships to other persons through some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relation to the established organization of modern business and industry and in relation to governmental practices and labor organizations, with special emphasis on the operating responsibilities of good management.



MEDICAL OFFICE ASSISTING

The medical office assistant is a person trained to assist the licensed physician in his office or in a hospital out-patient department. The demands on the time of the physician have made the career of medical office assistant one of the most rapidly growing and most important fields of work in recent years. The duties of the medical office assistant include: preparing patients for the physician's examination, cleaning and sterilizing equipment and supplies, collecting specimens, performing simple laboratory tests and carrying out the business-office activities of the doctor.

DESCRIPTION OF CURRICULUM

A diploma will be awarded to students who satisfactorily complete the one year Medical Office Assisting curriculum. In addition to classroom study, each student will be provided with "on the job" practice under the direct supervision of a doctor and a medical assistant. These experiences are planned and coordinated by a member of the College faculty.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours per Week		Quarter
			Class	Lab	Hours Credit
FIRST QUARTER					
MED	1102	Orientation to Medical Assisting	2	0	2
ENG	1102	Communication Skills	3	2	3
PSY	1101	Human Relations	2	0	2
T-BUS	113	Medical Terminology and Vocabulary I	1	2	2
SCI	1101	Basic Health Science	4	3	5
			12	7	14
SECOND QUARTER					
T-BUS	114	Medical Terminology and Vocabulary II	1	2	2
MED	1115	Medical Ethics and Law	3	0	3
BUS	1102	Typing	2	3	3
BUS	1110	Accounting	5	2	6
			11	7	14
THIRD QUARTER					
T-BUS	214	Secretarial Procedures	3	0	3
MED	1117	Office Procedures	3	6	5
MED	1118	Laboratory Procedures	2	6	4
ENG	1103	Report Writing	3	0	3
			11	12	15
FOURTH QUARTER					
MED	1119	Medical Office Practice	0	24	8
MED	1120	Medical Assistant Seminar	4	0	4
			4	24	12

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MED 1102 Orientation to Medical Office Assisting (2-0) 2

This course is designed to help the student in understanding the role of the medical office assistant. Emphasis is placed on the development of appreciations and attitudes that will assist in the establishment of realistic goals in personal and vocational development.

ENG 1102 Communication Skills (3-2) 3

The course deals with the development of an ability to communicate effectively through the medium of good language usage in speaking and writing. Emphasis is placed upon the efficient organization and presentation of thoughts related to job-connected problems.

PSY 1101 Human Relations (2-0) 2

The development of an understanding of relationships to other persons through some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relation to the established organization of modern business and industry and in relation to governmental practices and labor organizations, with special emphasis on the operating responsibilities of good management.

T-BUS 113 Medical Terminology and Vocabulary I (1-2) 2

A study of the structure of medical words and terms. Emphasis is placed on spelling and defining commonly used prefixes, suffixes, root words and their combining forms.

SCI 1101 Basic Health Science (4-3) 5

This course is designed to give the student an understanding of basic science principles and their relationships to health. The course includes study of the structure and function of the human body, principles of food and nutrition and selected principles of microbiology.

T-BUS 114 Medical Terminology and Vocabulary II (1-2) 2

A continuation of T-BUS 113 with greater emphasis placed on the understanding of terminology and its use in the medical office. P. R. T-BUS 113.

MED 1115 Medical Ethics and Law (3-0) 3

Principles of office conduct, ethical responsibility in regard to information acquired, and the obligation and responsibilities of the medical office assistant are studied. Laws governing medical practice are included.

BUS 1102 Typing (2-3) 3

This course is required of all students who have had no previous typing. The touch system is taught. The proper manipulation of the keyboard and the operation of the machine are given special attention.

BUS 1110 Accounting (5-2) 6

The principles, techniques and tools of accounting are studied. Emphasis is placed upon understanding the mechanics of accounting—collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises. Opportunity is given for practical application of the principles learned.

MED 1117 Office Procedures (3-6) 5

This course is designed to teach the skills needed by the medical office assistant in assisting the doctor in the examination room. The course of study includes proper physical and psychological preparation of the patient for the physician's examination and proper care of the supplies and instruments used.

T-BUS 214 Secretarial Procedures**(3-0) 3**

This course is designed to acquaint the student with the responsibilities encountered by a secretary during the work day. These responsibilities include the following: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization and insurance claims.

MED 1118 Laboratory Procedures**(2-6) 4**

This course is a study of the basic knowledge needed to become familiar with the laboratory tests most commonly performed in the doctor's office. Emphasis is placed on patient preparation for diagnostic procedures. The ability to obtain and prepare specimens and carry out routine laboratory examinations such as urinalysis and blood count is developed.

ENG 1103 Report Writing**(3-0) 3**

This course is designed to aid the student in the improvement of self-expression in business and technical composition. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation and spelling. The objective is to stimulate students to apply the basic principles of English grammar in their day-to-day situations in industry and life.

MED 1119 Medical Office Practice**(0-24) 8**

This course is a practicum in medical office assisting. The student is assigned to a physician's office, clinic or outpatient department. Assignments are rotated to encompass experience in office management, examination room procedures and laboratory procedures. C. R. MED 1120; P. R. Fourth Quarter standing.

MED 1120 Medical Office Assistant Seminar**(4-0) 4**

A study of the personal and vocational responsibilities of a practitioner in the field of amedical office assisting. Discussion of problems encountered during experience in Medical Office Practice (MED 1119) offers an opportunity for reinforcement of learning. C. R. MED 1119; P. R. Fourth Quarter standing.





PRACTICAL NURSING

The demand for licensed practical nurses far exceeds the supply of available trained people. Hospitals, clinics, nursing homes, doctors' offices and industries need licensed practical nurses.

The graduate licensed practical nurse is an important member of the health team. In addition to the nursing care she is able to give to convalescing patients and to those with chronic or handicapping conditions, she is also equipped to assist the registered nurse in providing care for the more seriously ill and injured. Both men and women find opportunities for service as licensed practical nurses.

DESCRIPTION OF CURRICULUM

The Practical Nursing curriculum at Central Piedmont Community College provides the opportunity for students to gain the knowledge, appreciations and skills which are needed by an effective practitioner of practical nursing.

The course of study is one year (four quarters) in length and provides both classroom and supervised hospital practice.

Opportunity is provided for the study of nursing care of patients of all age groups in medical-surgical nursing, care of the sick child, and care of the mother and newborn infant.

Upon completion of the curriculum, the graduate is awarded a diploma by the college and is qualified to take the licensing examination given by the North Carolina Board of Nursing, Raleigh, North Carolina.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per Week	Quarter Hours	
FIRST QUARTER			Class	Lab.	Credit
ENG	1102	Communication Skills	3	2	3
PSY	1101	Human Relations	2	0	2
SCI	1101	Basic Health Science	4	3	5
NUR	1102	Orientation to Vocational Relationships	2	0	2
NUR	1103	Introduction to Patient Care	6	6	8
			—	—	—
			17	11	20
SECOND QUARTER					
NUR	1104	Basic Principles of Drug Administration	4	0	4
NUR	1105	Care of Patients with			
		Medical-Surgical Conditions I	8	24	16
			—	—	—
			12	24	20

THIRD QUARTER

NUR	1106	Care of Mothers and Newborn Infants	4	9	7
NUR	1107	Care of Patients with Medical-Surgical Conditions II	8	15	13
			12	24	20

FOURTH QUARTER

NUR	1108	Care of Infants and Children	4	9	7
NUR	1109	Vocational Relationships	2	0	2
NUR	1110	Care of the Seriously Ill and Injured	6	15	11
			12	24	20

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course is listed in parentheses following the course title. The last number listed is the number of quarter hours of credit for the course. The letters P. R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

ENG 1102 Communication Skills (3-2) 3

The course deals with the development of an ability to communicate effectively through the medium of good language usage in speaking and writing. Emphasis is placed upon the efficient organization and presentation of thoughts related to job-connected problems.

PSY 1101 Human Relations (2-0) 2

The development of an understanding of relationships to other persons through some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relation to the established organization of modern business and industry and in relation to governmental practices and labor organizations, with special emphasis on the operating responsibilities of good management.

SCI 1101 Basic Health Science (4-3) 5

This course is designed to give the beginning student an understanding of basic science principles and their relationships to health. This course includes study of the structure and function of the human body, principles of foods and nutrition and selected principles of microbiology.

NUR 1102 Orientation to Vocational Relationships (2-0) 2

This course is designed to assist the student in understanding herself, her vocation and the individual needs of her patients. Emphasis is placed on the development of appreciations and attitudes which will assist the student in understanding her role as a potential worker in nursing, in establishing effective relationships with her co-workers and patients, and in establishing realistic goals for herself in her personal and vocational development.

NUR 1103 Introduction to Patient Care (6-6) 8

This course is planned to provide the opportunity for students to gain a knowledge of the principles which are basic to effective and safe nursing care. Emphasis is placed on the development of the essential skills for the performance of those nursing measures that normally are the responsibility of the licensed practical nurse. Lecture and planned class laboratory experience are followed by related clinical experience.

NUR 1104 Basic Urinciples of Drug Administration (4-0) 4

The basic concepts of drug therapy and an appreciation of the responsibilities and the necessary limitations of the Licensed Practical Nurse in the administration of medications are emphasized.

NUR 1105 Care of Patients With Medical-Surgical Conditions I (8-24) 16

This course is designed to provide the student the opportunity to gain an understanding of the nursing needs of patients who have various medical-surgical conditions and to develop further understanding of the common drugs and therapeutic measures of concern to the practical nurse. Lecture and class laboratory provide the background for selected clinical experiences .

NUR 1106 Care of Mothers and Newborn Infants (4-9) 7

This course is designed to provide opportunities for students to acquire the knowledge, understanding and skill needed for rendering safe and effective nursing care to the maternity patient and newborn infant. Classroom instruction provides the background essential for planned clinical experience centered around analysis of nursing needs and formulation of a nursing care plan to meet individual patient needs.

NUR 1107 Care of Patients With Medical and Surgical (8-15) 13

A continuation of NUR 1105.

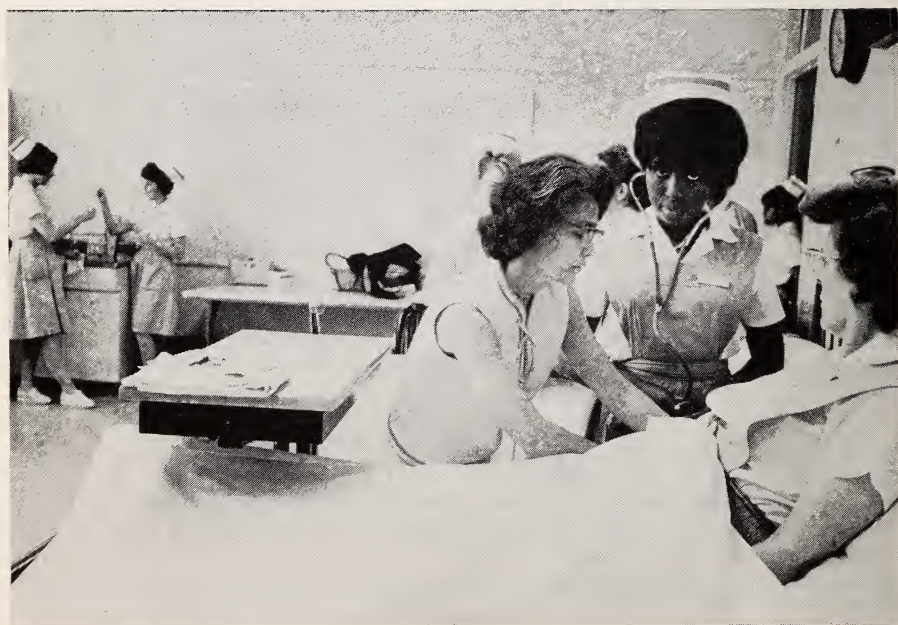
NUR 1108 Care of Infants and Children (4-9) 7

This course is designed to provide opportunities for students to acquire the knowledge, understanding and skills needed for rendering safe and effective nursing care of infants and children. Classroom instruction provides the background essential for planned clinical experiences centered around analysis of nursing needs and formulation of a nursing care plan to meet individual patient needs.

NUR 1109 Vocational Relationships (2-0) 2

This course is designed to orient the student to her role as a licensed practical nurse. It includes the study of opportunities in practical nursing and the obligations and responsibilities of the licensed practical nurse as a person, a worker and a citizen. Relationships with other members of the health team to more fully achieve the goals of nursing are emphasized throughout the course.

This course is designed to prepare the student for participation in the care of seriously ill patients and for development of further skills in the care of selected patients. Emphasis is placed on the assisting role of the licensed practical nurse. Classroom instruction provides the background for planned clinical experiences.



WELDING

Many of the parts used in missiles, automobiles, airplanes, refrigerators and thousands of other products are joined by a widely-used process known as welding. Welders join metals by applying intense heat and sometimes pressure to metals to melt the edges to form a permanent bond. Of the more than thirty-five different ways of welding metals, electric arc, oxyacetylene and resistance welding are the three most important.

Welding provides the opportunity to see the world and make good money at the same time. Skilled welders work on bridges, buildings, dams and other construction projects around the globe. A well-trained welder can travel if he wishes, or he can obtain one of the many jobs now available in Charlotte for a person skilled in this trade.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College provides the opportunity for students to develop the skills necessary in the operation of a variety of types of welding equipment. Other courses such as metals, shop math and blueprint reading play important parts in developing a first-class welder. A graduate from this curriculum will receive a diploma from the College.

SUGGESTED SEQUENCE OF REQUIRED COURSES

Course Title			Hours Per	Week	Quarter
			Class	Lab.	Hours Credit
FIRST QUARTER					
WLD	1120	Oxyacetylene Welding and Cutting	3	12	7
MAT	1101	Shop Mathematics I	3	0	3
DFT	1104	Blueprint Reading	3	0	3
ENG	1102	Communication Skills	3	2	3
			—	—	—
			12	14	16
SECOND QUARTER					
WLD	1121	Arc Welding	3	12	7
MAT	1103	Shop Mathematics II	3	0	3
DFT	1117	Blueprint Reading and Sketching	3	2	4
PHY	1101	Shop Science I	2	2	3
			—	—	—
			11	16	17
THIRD QUARTER					
WLD	1124	Pipe Welding	1	3	2
WLD	1123	Inert Gas Welding	3	12	7
MEC	1115	Heat Treatment of Metals I	1	3	2
PHY	1102	Shop Science II	2	2	3
			—	—	—
			7	20	14

FOURTH QUARTER

WLD	1122	Commercial and Industrial Practice	2	9	5
WLD	1125	Certification Practice	2	6	4
MEC	1116	Heat Treatment of Metals II	1	3	2
PSY	1101	Human Relations	2	0	2
BUS	1103	Shop Management	2	0	2
			9	18	15

COURSE DESCRIPTIONS

In each course description there is listed the course number followed by the course title. The number of lecture and laboratory hours for the course are listed in parentheses following the course title. The last number listed is the number of quarter hours for the course. The letters P.R. indicate the prerequisite for the course. The letters C. R. indicate a corequisite.

WLD 1120 Oxyacetylene Welding and Cutting (3-12) 7

An introduction to the history of oxyacetylene welding, the principles of welding and cutting, nomenclature of the equipment and assembly of units are the major topics of this course. Welding procedures such as practice of puddling and carrying the puddle, running flat beads, butt welding in the flat, vertical and overhead positions, brazing and hard and soft soldering are studied. Safety procedures in the use of tools and equipment are stressed. Students perform mechanical testing and inspection to determine quality of the welds.

MAT 1101 Shop Mathematics I (3-0) 3

A review and application of operations with decimals and fractions, percentages, ratios and proportions. An introduction to algebra with emphasis on formulas.

DFT 1104 Blueprint Reading (3-0) 3

The interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures and notes.

ENG 1102 Communication Skills (3-2) 3

The course deals with the development of an ability to communicate effectively through the medium of good language usage in speaking and writing. Emphasis is placed upon the efficient organization and presentation of thoughts related to job-connected problems.

WLD 1121 Arc Welding (3-12) 7

A study of the operation of AC transformer and DC motor generator arc welding sets. Studies are made of welding heats, polarities, and electrodes for use in joining various metal alloys by the arc welding process. After the student is capable of running beads, butt and fillet welds in all positions are made and tested so that the student may detect his weaknesses in welding. Safety procedures are emphasized throughout the course.

MAT 1103 Shop Mathematics II**(3-0) 3**

The emphasis is placed on definitions and theorems in geometry. About 40 general theorems are demonstrated by the instructor. Specific application of each theorem to the solution of geometric shop problems is demonstrated. Concepts of linear measure areas and volumes are taught. Geometric formulas are derived intuitively. P. R. MAT 1101.

DFT 1117 Blueprint Reading and Sketching**(3-2) 4**

A thorough study is made of trade drawings in which welding procedures are indicated. Emphasis is given to the interpretation, use and application of welding symbols, abbreviations and specifications.

PHY 1101 Shop Science I**(2-2) 3**

An introductory course in physics and its applications, covering systems of measurement and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electro-magnetism. The production, transmission, distribution, measurement and specific applications of electrical energy also constitute major areas of study.

WLD 1124 Pipe Welding**(1-3) 2**

This course is designed to provide practice in the welding of pressure piping in the horizontal, vertical, and horizontal fixed position using shielded metal arc welding processes according to Sections VIII and IX of the ASME code. P. R. WLD 1121.

WLD 1123 Inert Gas Welding**(3-12) 7**

An introduction to and practical operations in the use of inert-gas-shield arc welding. A study is made of the equipment, operation, safety and practice in the various positions. A thorough study of such topics as principles of operation, shielding, gases, filler rods, process variations and applications, manual and automatic welding. P. R. WLD 1120, WLD 1121.

MEC 1115 Heat Treatment of Metals I**(1-3) 2**

The investigation of the properties of ferrous metals and tests to determine their uses. Some chemical metallurgy is included to provide background for the understanding of the physical changes and the causes of these changes in metals. Physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloys of special steel, classification of steels and cast iron are topics for study.

PHY 1102 Shop Science II**(2-2) 3**

Principles of force, motion, work, energy, power and mechanisms' mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work are covered. Heat removal (refrigeration) is also introduced. P. R. PHY 1101.

WLD 1122 Commercial and Industrial Practices (2-9) 5

The major objective of the course is to build skills through practices in simulated industrial processes and techniques including sketching and laying out on paper the size and shape description, listing the procedure steps necessary to build the product, and following these directions to build the product. Emphasis is placed on maintenance, repairing worn or broken parts by special welding applications, field welding and nondestructive tests and inspection. P. R. WLD 1120, WLD 1121.

WLD 1125 Certification Practice (2-6) 4

This course involves practice in welding the various materials to meet certification standards. The student uses various tests including guided bend and tensile strength tests to check the quality of his work. Emphasis is placed on attaining skill in producing quality welds. P. R. WLD 1123, WLD 1124.

MEC 1116 Heat Treatment of Metals II (1-3) 2

A continuation of the study of physical metallurgy. The non-ferrous metals, bearing metals (brasses, bronze, lead), light metals (aluminum and magnesium) and copper and its alloys are studied. Powder metallurgy, titanium, zirconium, indium and vanadium are included in the course. P. R. MEC 1115.

PSY 1101 Human Relations (2-0) 2

The development of an understanding of relationships to other persons through some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relation to the established organization of modern business and industry and in relation to governmental practices and labor organizations, with special emphasis on the operating responsibilities of good management.

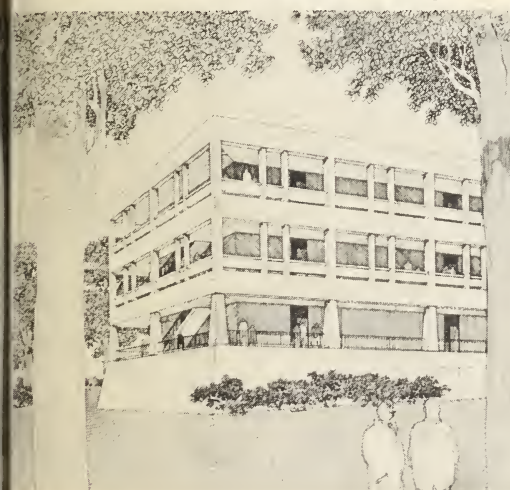
BUS 1103 Shop Management (2-0) 2

An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business and employer-employee relations.



entral Piedmont Community College is building ...

... on a tradition of excellence ...



... to meet the challenges of the future.



CENTRAL PIEDMONT COMMUNITY COLLEGE

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